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A STUDY OF THE FACTORS THAT MAY INFLUENCE THE IMPLEMENTATION OF A VOCATIONAL EDUCATION CURRICULUM AT THE UTAH STATE INDUSTRIAL SCHOOL.

BY- HEGGEN, JAMES R. IRVINE, FLEET
UTAH RESEARCH COORD. UNIT FOR VOCATIONAL EDUC.

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OF THE APPROXIMATELY 375 TO 400 YOUTHS CONFINED AT THE UTAH STATE INDUSTRIAL SCHOOL, 169 STUDENTS, ABOUT TWO-THIRDS MALES AND ONE-THIRD FEMALES, WITH AN AGE RANGE FROM 15.5 TO 18.5 YEARS, WERE STUDIED IN ORDER TO DEVELOP GUIDELINES FOR SELECTING VOCATIONAL TRAINING AREAS TO BE OFFERED IN THE SCHOOL. RELEVANT LITERATURE WAS REVIEWED; STUDENT FACTORS AFFECTING EDUCATION PROGRAMS DERIVED FROM RESULTS OF STANDARDIZED TESTS AND PREVIOUS STUDIES OF THE SCHOOL POPULATION WERE ANALYZED; VOCATIONAL OFFERINGS IN 13 COMPARABLE INSTITUTIONS WERE SURVEYED, AND EMPLOYMENT OPPORTUNITIES AND AN ANALYSIS OF OCCUPATIONS WERE COMPILED FROM THE UTAH DEPARTMENT OF EMPLOYMENT SECURITY AND THE "OCCUPATIONAL OUTLOOK HANDBOOK". THE STUDENTS WERE ACADEMICALLY RETARDED BY 3.7 GRADE LEVELS AND WERE BELOW THE NATIONAL NORMS IN INTELLIGENCE, VERBAL, AND NUMERICAL APTITUDES. THE OCCUPATIONAL PATTERNS FOR WHICH THE MAJORITY QUALIFIED WERE IN THE LOW-SKILLED OR SERVICE TRADES. THEY HAD LOW LEVELS OF CAREER INTEREST, HIGH LEVELS OF DRIVES TOWARD SELF-INDULGENCE AND ASSERTIVENESS, AND WERE GENERALLY WITHDRAWN, HOSTILE, AND RIGID. EMPLOYMENT OPPORTUNITIES WERE AVAILABLE IF THE STUDENTS WERE APPROPRIATELY TRAINED. THE CONCLUSIONS WERE (1) THERE IS A NEED FOR VOCATIONAL PROGRAMS FOR INSTITUTIONALIZED YOUTH, (2) APTITUDES, ACHIEVEMENT LEVELS, MOTIVATION, AND PERSONALITY FACTORS OF THE STUDENTS WILL AFFECT THE CHOICE OF VOCATIONAL PROGRAMS IMPLEMENTED, AND (3) A GENERAL VOCATIONAL CURRICULUM WOULD BE THE MOST PRACTICAL TYPE OF PROGRAM FOR THESE STUDENTS. THE UTAH STATE INDUSTRIAL SCHOOL CURRICULUM IS INCLUDED. (PS)

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**Produced by the Utah Research Coordinating Unit
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**U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION**

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OFFICE OF THE STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

**Produced by the Utah Research Coordinating Unit
for Vocational and Technical Education**

**Project Director--Dr. Austin G. Loveless
Associate Director, Research Coordinating Unit
Professor, Industrial & Technical Education
Utah State University**

**Principal Investigators--Dr. James R. Heggen
Research Assistant
Industrial & Technical Education
Utah State University**

**Dr. Fleet Irvine
Research Assistant
Industrial & Technical Education
Utah State University**

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Chapter I

STATEMENT OF THE PROBLEM

A basic objective of a juvenile correctional institution is the rehabilitation of delinquents so that they are able to function within the established and accepted standards of society. This objective is attained through an organized instructional and counseling program that attempts to foster acceptable social attitudes, motivations, basic social and educational skills, and basic economic skills.

While the objective was clearly delineated, the problem of selection of specific programs designed to attain the objective remains. Practical answers to this problem have been developed in many phases of the rehabilitation program in such areas as counseling and the development of basic educational skills, however, extensive research is essential in the selection of programs designed to develop basic economic (vocational) skills.

Such problems as age span, period of detainment, varying entry and exit dates psychological and social unadjustment, and social stigmas make the traditional methods of selection of vocational training areas unworkable and illustrate a need for research that will help determine specifically which vocational training areas should be offered at a specific correctional school.

PURPOSE OF THIS STUDY

The major purpose of this study was to develop guidelines for the selection of vocational training areas to be offered in the Utah State Industrial School. Specifically this study will attempt to answer the following questions:

1. What implications do student motivation, personality, aptitudes,

and achievement have for the selection of vocational training areas at the Utah State Industrial School?

2. What implications do the programs of comparable schools have for the selection of vocational training areas at the Utah State Industrial School?
3. What implications do national and local employment opportunities, and training opportunities, have for the selection of vocational training areas at the Utah State Industrial School?
4. How can the above implications and factors be used in the development of criteria for selection of vocational training programs at the Utah State Industrial School?

PROCEDURE

The data for this study was obtained from four major sources:

(1) a review of literature pertaining to vocational curriculums in industrial schools, (2) an analysis of student characteristics which effect educational programs, (3) a nation-wide survey of comparable industrial schools, and (4) a survey of employment opportunity in the nation and Utah.

Chapter II

REVIEW OF LITERATURE

Almost all literature today related to the need for vocational education in corrective institutions indicates that the need for such education is of primary importance if rehabilitation of juvenile delinquents is to become a reality. Obviously, the problem becomes even more significant when related to the increase in juvenile delinquency which is taking place today in every section of the country. In spite of the urgency with which most educators seem to regard vocational education for delinquents, most corrective institutions have been slow to implement new programs, and among the reasons most often cited for failure to provide this training is a lack of meaningful research in the area.

As early as 1964, the Secretary of Labor conducted a study of correctional inmates and, as a result of the study, called for a comprehensive program of vocational guidance, remedial education, skill training, and job referral for those incarcerated in corrective institutions. (Manpower Report of the President, 1966)

In spite of this mandate and the growth of the problem, little research was forthcoming.

Again in 1966, the Department of Labor called for research in this area by indicating that the potential contribution of vocational training as a means of reducing returnees and preparing parolees to assume a productive status in society should be more fully tested and explored in correctional institutions. This Labor Department study indicated that many releasees who return to society as poorly equipped and trained, with no vocational skills, as when they entered correctional institutions could not be expected to improve on their pattern of insecure employment and low wages which are associated with unskilled jobs. (Manpower Research

Bulletin, 1966)

Further evidence of the government's concern for the problem can be illustrated, according to Prigmoie and others, by the record: "Recent laws passed by Congress reveal a recognition of the importance of vocational rehabilitation of offenders and the need for expanded research into improving the training programs for correctional workers." (Prigmoie and others, 1965, p. 37) An example of such legislation is the Correctional Rehabilitation Study Act.

Although it would seem that with the federal government leading the way much research into the area of education in corrective institutions would be undertaken, such has not been the case.

Glaser describes this situation in the following terms:

While research is worthwhile in any school, it is not always as essential as it is in prison schools. Most schools can learn the answers to their questions by studying the published reports of research done elsewhere, in schools or with pupils comparable to theirs. In correctional education there is not enough research literature available to meet the needs of prison schools. In addition, each correctional system has unique features in sentencing and parole policies, and in the communities it serves, which make some of the knowledge it needs apply only to it. (Glaser, 1966, p. 8)

In order to begin to establish the effectiveness of vocational education programs, an examination was made of these programs in general. One such study of high school graduates with vocational training was conducted by Coe. This study was made 10 years after graduation and the former students indicated that the vocational training was of great help to them in their employment. From the standpoint of vocational education, the findings of this study can be interpreted as really successful as most working graduates (61%) were still employed in occupations for which they were trained and they had a favorable reaction to the training even after a ten-year period. (Coe, 1965)

While there does seem to be ample research evidence to indicate that vocational education is desirable and practical for those outside of correctional institutions, there is also some research available to illustrate the need for it in such institutions. Lightfoote, in a study aimed at developing a plan for vocational training at the Alabama Industrial School, concluded that institutionalized students do need to be trained in a trade or vocation with which to earn a living when they are released. (Lightfoote, 1961)

Probably the most meaningful study in this specific area was reported by Sard. Since 1964, at Lorton Youth Center, a penal institution in the District of Columbia, 195 young men sentenced under the Federal Youth Corrections Act have received training in a contract project under the Manpower Development and Training Act. The program has achieved great success. Of 89 parolees, after 18 months, all but 2 had obtained employment, and of these, 77 were placed in fields for which they were trained. Of greatest importance, however, is the fact that there was only a 4.5% return rate, as compared with a return rate of 46.9% over the same period for parolees who had not received such training. Two other programs similar to this are now being conducted at Elmore, Alabama, and Rikers Island, New York. (Sard, 1966)

The Rikers Island study specifically trained young inmates to operate data processing machines in a two-month period, and the preliminary findings of this research project indicated that most of the trainees were capable of absorbing the training even though they were school dropouts and that youthful inmates can be given meaningful training even during a short term. (Manpower Research Bulletin, 1966)

LaVallee reported another study involving vocational education at

Auburn Prison, Auburn, New York, and concluded that although follow-ups with released parolees are not easy to obtain, many instructors frequently receive letters of appreciation from parolees for helping them to find employment upon release. The institution also receives many inquiries from employers in the area relative to the availability of trained men. (LaVallee, 1966)

It should also be pointed out that in response to the Labor Department's urgent request for research and testing in the area of vocational education for correctional institutions, many important research projects are currently underway. In the Preston School of Industry in California, there is a continuing project to train delinquents with low academic achievement and poor employment potential by giving work habits training and vocational counseling. (Seckel and Fuller, 1966) The extent of this problem in California, for example, is clearly illustrated by Kempf:

The California Department of Corrections and the Parols Division is facing a trend toward a highly competitive labor market in the placement of inmates. From now until 1970, the Department will make its contribution to the California work force by releasing 45 to 50 thousand inmates to compete for jobs. To meet the challenge, Correctional Industries and Education must commit more of their resources to the education of inmates and the improvement of the quality and quantity of on-the-job training and technical instruction. Opportunities for both academic and vocational education must be provided, and the 2 programs must be better coordinated. (Kempf, 1965, p. 13)

Among other projects currently in effect are Operation G.R.O.W.T.H., Group Rehabilitation Orientation and Work Training Help, in Colorado and a similar study in Oklahoma, through the Oklahoma State Department of Education.

Of great importance to this study is the research already undertaken to indicate "why" vocational education is of such vital importance

to youth in correctional institutions.

The first reason why this training is important can be readily understood from a study completed in 1966 under the direction of the Office of Manpower. From this study it was determined that all things being equal, releasees who have received training or education during their correctional period are more employable in the labor force.

(Powell, 1966) This employability factor becomes more significant when combined with the results of study by Jacks which found that during a given period of time, July 1 to December 31, 1964, and based on cases released on parole by the Pennsylvania Board of Parole, 2/3 of the persons involved in crime were unemployed when the crime was committed.

(Jacks, 1966)

Based on this philosophy of lack of training being directly related to unemployment and unemployment being directly related to crime, the United States Office of Manpower Policy has funded a current study titled Project D.E.V.E.L.O.P., Developing Educational-Vocational Experiences for Long Term Occupational Adjustment of Parolees. Witt has this to say about this project:

There is support for the notion that success on parole is closely related to job adjustment. Therefore, a promising approach to the task of assisting large numbers of offenders to readjust favorably in society would be an action program which helps them to secure suitable employment and encourage them to develop the knowledge, skills and attitudes essential for becoming established in the world of work. (Witt, 1966)

All research seems to indicate that any releasee who is not capable of supporting himself can certainly easily become subject to pressures which quickly may lead again to crime and a return to prison. One comprehensive study of parolee earnings in the state of Virginia over a twelve-year period, as related to parole violations, showed a direct

relationship between low earnings and high parole violations. For example, more than 40% of the releasees with a monthly income of less than \$50 violated parole in some way, as compared to only 10% of the releasees with an income of \$275 per month who violated parole. (Manpower Research Bulletin, 1966)

Although not directly related to other studies already mentioned, there are three more studies which should be cited in that they could have a direct bearing on either the procedures or curriculum recommendations resulting from this research. The first of these studies was conducted by Conanway and concluded that the rehabilitation division of correctional institutions should utilize material concerning intelligence and occupational aptitudes when developing a training program for the inmates. (Conanway, 1961) The testing of institutionalized youths as a preliminary step for planning vocational curriculum, as described in the next chapter, was an attempt to meet this criteria.

The last two studies cited will provide some background for the type of curriculum recommendations resulting from this research. One of these studies by Siegel, Richlin, and Federman relates to an evaluation of general training programs versus the specialized instructional program and concludes that although in some areas there was no statistically significant between-group differences in performance, in other areas the more generally trained group was superior to a statistically significant extent. (Siegel, Richlin, Federman, 1960)

A final related study is reported by Super and concerns vocational choice decisions made by youths in the age bracket involved in this study. He has written:

The second problem is the nature of exploratory vocational behavior. This particular term came to be used in

work on the Career Pattern Study, which was concerned with what high school boys do that brings about increased vocational maturity and leads to the making of prevocational and vocational choices. The Career Pattern Study analysis of vocational maturity in early adolescence having shown that most boys are ready to explore themselves and the world of work with a view to eventual occupational choice, but are not ready to make such choices, we considered it crucial to analyze the exploratory process during the high school years. (Super, 1962, p. 13)

In summary, it may be said that the following generalizations have been derived from a review of available literature in the area of vocational education for correctional institutions.

1. The United States Government is well aware of the many problems which exist in this area and has taken steps to correct these problems by passing legislation relating to the problem and encouraging research and testing.
2. This research is of great importance to correctional institutions as each institution is usually unique.
3. Studies have indicated that vocational training was considered valuable by graduates not only immediately upon entering the work world, but for as long as 10 years later.
4. Studies have proven that vocational training is possible and has many positive effects in corrective institutions.
5. Many meaningful studies are currently underway in this area.
6. Institutionalized youths who have been exposed to vocational training do become more employable.
7. There is a direct relationship between employment and crime and employment and the number of releasees who return to institutions.
8. There is evidence to indicate that in some areas general training is more effective in the long run than specialized training.
9. Before planning a vocational curriculum intelligence and occu-

pational aptitudes of those to be trained should be investigated.

10. Boys of high school age are not ready to make occupational choices, but are interested in an exploratory vocational program.

Although differences have arisen in vocational education relating to methods of implementing programs, most vocational educators would agree that the ultimate goals are concerned with learning to work. Of great importance, however, is the fact that the method used to implement this goal has a significant bearing on the degree of efficiency achieved.

Most programs of vocational education which attempt to prepare youth for employment can be identified by two broad approaches: (1) general preparation for employment; and (2) occupational training. Essentially the difference between the two approaches is a difference based on purpose.

Benjamin and others describe the general preparation as follows:

General preparation for employment describes an approach that seems to rest on the assumption that unemployment inheres in the youth themselves. They are viewed as being unable to perform well on a job--any job--because of poor work habits and attitudes, limited ability, and unrealistic notions about themselves and their vocational goals. They need help, according to this view, to improve their attitudes, give them greater self-awareness, and acquire some of the fundamentals for getting a job. Programs of this type may be called by various names; they are, however, more alike than different since they all offer general rather than specific job preparation. (Benjamin, Lesh, Freedman, 1965, p. 11)

Educators who favor this type of program contend that a general or fundamental course is, in the long run, the best preparation for a vocation.

Those educators who adhere to the occupational approach to vocational education insist that the general courses serve a purpose but do not provide the specific competencies needed in preparing youth to compete in the labor market today.

This explanation indicates their position:

When a program reflects the occupational training approach, the chief assumption is that the problem of unemployable youth stems more from external economic conditions, particularly changing employment patterns, than from the nature of the youth themselves. There is little or no demand for unskilled youth, and, in fact, there are only certain occupations untrained youth can expect to enter; this is largely what makes them unemployable. A youth employment program especially designed for the least employable, according to this view, must consider the employment outlook and train youth specifically for those occupations where employment is possible. (Benjamin, Lesh, Freedman, 1965, p. 12)

In summary, the general vocational education program has as its basic goal to provide youth with a good vocational understanding so that he will understand the world of work. In this program it is assumed that he needs only the most elementary type of skills, which he can acquire in a short time. However, in the vocational occupational education program, job orientation and training for specific occupations are of prime importance because entry skills are considered necessity in the labor market.

The element that both approaches usually have in common is some work experience in the vocational education process. In the general vocational education program, this work experience is usually used only as a guidance tool or is combined with guidance on equal footing. It serves to improve attitudes, motivation, and behavior. However, vocational education programs which stress occupational training use work as on-the-job training to teach specific skills, not to gain an understanding of the world of work.

Of importance to this study of aptitudes and achievement of juvenile delinquents are general assumptions relating to future employment of youth involved in such programs. It is assumed by most vocational educators that students involved in the general preparation area will be

basically low-skilled workers, usually to be employed in the service trades. In the occupational training programs it has been assumed that the majority of students are semi-skilled and will be employed in manufacturing as well as in service trades. This fact is of particular interest to this study in that many vocational educators believe that to master the skills and training necessary for today's occupations, youth must possess the same degree of ability and work habits as students doing college preparatory work. (Benjamin, Lesh, Freedman, 1965)

Obviously there are problems in the preparation of youth for employment regardless of which approach is selected. Assuming that the general preparation programs can succeed in preparing all-around workers through better work habits and attitudes and a better understanding of the work world, they could still fall short of their goal if the students who complete these programs cannot find work for lack of an entry skill. Assuming, however, that the occupational vocational program can provide a specific skill for the student, what assurance is there that specific skills acquired will match those required when training is completed? If we cannot accurately predict which occupations will employ these students, the programs will also fall short of established goals.

Although it would appear that an easy solution to this problem could be obtained by soliciting employers' reactions to programs of vocational training, this has not proven to be an effective guide. Employer attitudes on this matter cannot be clearly established. Many indicate that they prefer a higher level of basic vocational training to be used as a good foundation for on-the-job training, while others prefer a greater emphasis on specific occupational training. (Getting Hired, Getting Trained, 1965) Of some help, however, was research conducted on this

topic indicating that employers' opinions on the subject seemed to vary from industry to industry, with the large employers preferring the well-trained generalist and the small employers hoping to be able to obtain specific occupational skills. (Getting Hired, Getting Trained, 1965)

Added to these facts, the results of an employer attitude survey in three labor market areas (Hartford, Connecticut; Winston Salem, North Carolina; and Charlotte, North Carolina) would seem to reiterate the general confusion related to vocational training programs. About 50% of the employers suggested occupational training as improving the school's preparation of youth, but indicated that they felt that the problems of youth were more closely associated with behavior and motivation than with pre-employment preparation. Responses on youth were far more frequently focused on attitude (51%) than on the desirability of training (31%).

(Getting Hired, Getting Trained, 1965)

It should be obvious, therefore, why it was felt necessary to examine the background of vocational education before presenting the data. The problems involved in attempting to formulate any program of vocational education are significant, but these problems will become even more meaningful when the aptitudes and achievement data gathered from juvenile delinquents are analyzed.

One thing is clear, however, relating to vocational education programs in public schools, as well as those specifically formulated for institutionalized youth. As citizens, young people are entitled to an education which is appropriate for their aptitudes and achievement levels. In vocational education, as in all education, the great concern is quality in relation to the potential of the individual and the needs of society.

Chapter III

INTRODUCTION

The state of Utah is faced with a growing problem of unemployment of young people and at the same time with an increase of juvenile delinquency. In 1960, the census bureau reported there were 41.7 thousand young people in the state between the ages of 14 and 19, and by 1970 there will be 68.7 thousand in this same age group. Based on projected increases in juvenile delinquency in this age group, related to the increased population, problems of delinquency are destined to increase.

With the realization that the problem will become greater, there can be little doubt that a need exists to study education among these institutionalized juvenile delinquents, as the problems these particular young people face related to employment are usually far greater than those of an average group of young people.

Because these students, for the most part, do not return to school, they are forced to secure some type of employment when they are released. It should be noted that because the majority of delinquents come from the half million youths, 14 through 19 years old, who have dropped out of school, the employment picture is not bright for them.

In general, the unemployment rate for high school dropouts is much higher, their earnings are considerably lower, and their opportunities are much more limited than for young people in good standing in the community, who have received their high school diplomas. For the most part, these problems are caused by their lack of education and skills as well as their ignorance of the job market.

The problem, therefore, facing those individuals and agencies who are responsible for providing assistance to juvenile delinquents is perplexing. Delinquent youth have a strong interest in and definite

need for employment, and yet they are most ill-equipped for any type of work. In addition, they have little knowledge of the job demands, they are not familiar with the qualifications required to obtain certain jobs, and their vocational desires are unrealistic due to their lack of skill, training, and poor insight into their own capacities.

Educators and public officials have long recognized the problems involved in providing an appropriate curriculum for students in corrective institutions. Kemp indicated the importance of the problem in these terms:

We can no longer ignore the rise of juvenile delinquency. Young people learning nothing, going nowhere, with no skill with which to claim a job, with no one to care what happens to them, and with no road to opportunity, are a rebuke to the inadequacy of our educational system. (Kemp, 1966, p. 11)

Recently, however, as the numbers of delinquents continue to grow, new attempts are being made to provide some effective solutions to the problems involving lack of training and the institutionalized juvenile delinquent.

With the passage of the Vocational Education Act of 1963 came new impetus for these programs as great stress is being placed on implementing or upgrading vocational educational curriculums. However, many times there is a tendency to inaugurate these new programs without thoroughly investigating the motivation, personality, aptitudes and achievements of the students who will utilize these new curriculums.

A Panel of Consultants on Vocational Education indicated that "students should be selected for specific education programs only when their aptitudes, interests, and achievements indicate they will be able to attain the required occupational skill." (Bishop and Tolley, 1963, p. 227)

The student characteristics were divided into the major areas of motivation, personality, aptitude and achievement for investigation.

Motivation

This section of this research project was based on the doctoral dissertation of Lester Carlson (1967). Carlson used four subgroups, three of which were delinquent populations and one which was a normal junior high-high school population. The three delinquent groups, were classified as (1) unsocialized aggressive, (2) socialized aggressive, and (3) overinhibited delinquent. The unsocialized aggressive syndrome included individuals manifesting such behaviors as initiatory fighting, cruelty, open defiance of authority or malicious mischief. The socialized aggressive syndrome included such behaviors as association with undesirable companions, gang activities, cooperative stealing, habitual school truancy, running away from home or staying out late at night. The overinhibited syndrome included such behaviors as seclusiveness, shyness, apathy, submissiveness, day dreaming, etc.

The four subgroups were compared in relation to the scores received on the Motivation Analysis Tests. The ten motivational scores are presented in Table 1.

The findings indicated that the overinhibited syndrome was significantly different on career sentiment, i.e., little interest in a career or little career information.

On the Narcism-Comfort dimension the normal group differed significantly from the unsocialized aggression group and the socialized delinquent group. This finding indicates that these two groups demonstrate a high level of drive toward sensuous self-indulgent satisfaction.

The socialized delinquent group was significantly different from the

Table 1. The ten dynamic structures measured in MAT

Order of Appearance in Final Test Profile	Title	Symbol on the Records	Brief Description
<u>Ergs</u> (Drives)			
7	Mating Erg	(Ma)	Strength of the normal, heterosexual or mating drive
9	Assertiveness Erg	(As)	Strength of the drive to self-assertion, mastery, and achievement
3	Fear (Escape)	(Fr)	Level of alertness to external dangers
4	Narcism-Comfort	(Ma)	Level of drive to sensuous self-indulgent satisfactions
8	Pugnacity-Sadian	(Pg)	Strength of destructive, hostile impulses
6	Self-Concept	(SS)	Level of concern about the self concept, social repute
5	Superego Sentiment	(SS)	Strength of development of conscience
1	Career Sentiment	(Ca)	Amount of development of interests in a career
10	Sweetheart-Spouse	(Sw)	Strength of attachment to wife (husband) or sweetheart
2	Home-parental Sentiment	(Ho)	Strength of attitudes attaching to the parental home
<u>Sentiments</u>			
(Cattell IPAT, 1964, p. 3)			

normal group on Assertiveness. This demonstrates that this delinquent group can cover up their inadequacies. There were no significant differences on the other motivational dimensions of the Motivational Analysis Test.

These findings give evidence to several implications for vocational education at the Utah State Industrial School. First there is a need to include exploratory occupation activities, giving individuals the opportunity to determine those occupations in which he has an interest. Also additional work is necessary in vocational guidance. Secondly, the predominance of the Narcism-Comfort dimension indicates the necessity of including within the curriculum learning units designed to help develop understandings of man and his work.

Personality Factors

Numerous studies have attempted to identify those personality characteristics predominant in delinquent youth. Illustrative of this research are the Gluecks (1950), Reckless (1961), Wilcox (1962) and Sowles (1966) studies. Through studies as cited above, numerous personality traits have been identified that are relevant to the delinquent. Especially important to this project was the work of Sowles (1966) who, using a sample population from the Utah State Industrial School, studied the interrelationships among biographical, experimental and personality variables for institutionalized juvenile delinquents. This data, as reported by Sowles, p. 128, 1966, and presented in Table 2, has some important implications as to which vocational training areas would be feasible at the U.S.I.S.

As noted in Tables 3 and 4 the personality ratings are the same except for Hostileness and Absence of Guilt which are dominant traits for males but not females.

The importance of these personality traits is further illustrated by the data presented in Table 2. The admission prognostic impressions indicate that less than 33 per cent of the individuals will moderately improve.

These personality traits, when compared to job descriptions cause an immediate omission of numerous possible occupations for which the delinquent population of U.S.I.S. are suited for. Hostility, a predominant trait in the boys personality is well suited as an example. Few occupations in present society have room for employees of a hostile nature. Insecureness, uninsightfulness, rigidity, dependence and self indulgence are traits undesirable in supervisory or decision making occupations. Concreteness, rigidity, dependence and inadequateness ex-

Ratings of personality traits (boys and girls)

20

Table 3.

Ratings of personality traits (boys)

Characteristic	Rating						
	1	2	3	4	5	6	7
A. Outgoing	6	33	51	91	62	47	11
B. Hostile	23	62	52	63	60	28	10
C. Elated	0	11	14	170	57	29	14
D. Adequate	0	5	12	28	39	135	76
E. Independent	0	16	16	27	39	109	89
F. Dominant	7	48	44	56	49	63	28
G. Imaginative	5	16	37	64	62	84	47
H. Flexible	3	6	26	75	52	91	42
I. Abstract	1	12	16	90	46	87	43
J. Disciplined	0	1	7	36	63	126	62
K. Cautious	2	4	12	46	62	107	62
L. Insightful	0	6	18	21	22	146	82
M. Masculine	6	33	55	165	23	12	1
N. Useful	0	3	13	53	60	123	43
O. Extrovert	3	26	51	94	60	50	11
P. Secure	0	1	4	10	35	116	129
Q. Sensitive	2	16	34	41	50	91	61
R. Absence of guilt	11	52	66	76	32	42	17
S. Calm	0	19	42	48	45	69	72

Withdrawn
Friendly
DepressedInadequate
Dependent
SubmissiveStereotyped
Rigid
ConcreteIndulged (self)
Impulsive
UninsightfulFeminine
Worthless
IntrovertInsecure
Insensitive
Guilty
Anxious

Ratings of personality traits (girls)

22

clude the probability of success in occupations requiring self directions, abstract thinking and planning. While numerous other parallels could be made, it is evident that in relation to the personality variables noted the training program most suitable to the student population would include occupations in which self direction, change, decision making and abstraction are not necessary. More suitable occupational areas for which training could be offered would include such occupations as unskilled and semi-skilled labor, clerical, retail sales and general service occupations.

Aptitude and Achievement Factors

This portion of the study was conducted by Heggen (1967) to determine the achievement level and establish the aptitude patterns of students confined to the school.

The following five questions were designed to measure these various characteristics.

1. What are the differences between the aptitudes of students aged 15.5 to 18.5 confined to the Utah State Industrial School and the norms established by the General Aptitude Test Battery?
2. What are the differences between the achievement levels of students aged 15.5 to 18.5 confined to the U.S.I.S. and the norms established by the California Achievement Test?
3. What are the differences between the aptitudes and achievement of students aged 15.5 to 18.5 who have been confined to the institution only once as compared to those who have been confined to the institution more than once.
4. Which occupational aptitude patterns are most prevalent among the 15.5 to 18.5 year old student confined to the U.S.I.S.?
5. Based on established occupational aptitude patterns, what type of vocational educational curriculum would best meet the needs of the student confined at the Utah State Industrial School?

Sample Description

The over-all student population of youths confined at the Utah State Industrial School is approximately 375 to 400 students. The age range is from 10 to 21 years, with 1/3 of the population being girls and 2/3 boys. The students are about 2/3 Caucasians, and the remaining 1/3 is made up of Negroes, Indians, and Spanish-Americans. Students are usually confined for an unlimited duration; however, the average length of confinement is about 9 months. The return rate of released students at this institution has been approximately 40% over a period of years.

The student population for this particular study was selected on the assumption that only those in the age range of 15.5 to 18.5 years would be able to benefit from a vocational education program. This premise was based on general occupational requirements that a youth needs to be a certain age in order to secure employment.

The original sample utilized in this research was anticipated at being approximately 200 students. However, because the student population is in a continued state of flux, the finalized total number was 169 students. Specific reasons for this reduced final population number are as follows:

1. Some of the students were released from school prior to completing all of the required tests.
2. Some of the students worked or attended school off the campus and were not available for testing.
3. Some of the students were confined to maximum security and could not be tested.
4. Some of the student are either mentally retarded or illiterate.
5. Some of the students refused to participate in the testing.

The 169 students who completed all of the tests represent the maximum available number of youths who met the age criteria of 15.5 to 18.5 years who are confined at the Utah State Industrial School.

The sample group was further divided by two criteria: (1) sex and (2) number of times confined. This last division divided them into those confined either once or any other number of times. This division of the sample group was as follows:

Group 1	69 males confined once
Group 2	45 males confined twice or more
Group 3	39 females confined once
Group 4	17 females confined twice or more

The average age of the sample was 16 years, 9 months. The average age of each of the subgroups was as follows:

Group 1 Males confined once	16 years, 7 months
Group 2 Males confined twice or more	16 years, 6 months
Group 3 Females confined once	16 years, 10 months
Group 4 Females confined twice or more	17 years, 2 months

The sample ratio of 2/3 males and 1/3 females is approximately the same as the ratio of the total confined population. The number of youths utilized in the sample group in the confined twice or more group is approximately 40%, the same percentage as in the total confined population at the Institution.

In order to establish the stability of the sample as being representative of the normal school population at the Utah State Industrial School, a comparison was made between the scores obtained on the Wechsler Intelligence Scale for Children from the sample and the scores obtained from a ten-year (1955-1966) study of intelligence of the school's population by Sowles.

A comparison of the mean scores obtained from the two groups indicates that there was no large degree of difference between them. The

Table 5. Total sample comparison to WISC norms established by Sowles

	SAMPLE MEAN	SOWLES MEAN
Full-Scale	95.80	92.80
Verbal-Scale	93.16	89.16
Performance-Scale	96.59	97.62

small amount of variance could probably be accounted for by the fact that the criteria established for the current research sample tended to eliminate a small portion of the total school population.

Instrumentation

The three instruments used in this study were designed to gather data that relates to intelligence, achievement, and aptitudes.

Two of the tests, intelligence (Wechsler Intelligence Scale for Children) and achievement (California Achievement Test), were administered to the students upon their confinement to the school. These two tests are used to identify the abilities of the students in order to properly place them in a grade level in school.

The third test, aptitude (General Aptitude Test Battery), was given to approximately 135 of the sample in May, 1967. The other portion of the sample had taken the General Aptitude Test Battery prior to this testing time.

PRESENTATION OF DATA

In order to facilitate presenting the data, a table or figure has

been used to describe the research results in each area. The particular findings mentioned are those in some way significant, rather than discussing every entry in the table or figure whether significant or not.

Before presenting the data the sample groups will again be identified for clarification:

Total Group	169 students tested
Group 1	69 males confined once
Group 2	45 males confined twice or more
Group 3	39 females confined once
Group 4	17 females confined twice or more

Question 1

What are the differences between the aptitudes of students aged 15.5 to 18.5 confined to the Utah State Industrial School and the norms established by the General Aptitude Test Battery?

In order to answer this question, the significant difference between the mean scores of the total sample on each aptitude and the mean scores identified by the General Aptitude Test Battery were used to establish differences between the confined group and the national norms.

The norms for the General Aptitude Test Battery were based on a working population of 4,000 samples, and each aptitude norm has a mean

score of 100 with a standard deviation of 20.

The data in Table 6 illustrates the comparison of the total sample of 169 student mean scores and standard deviations of the nine aptitude scores, as related to the national mean scores and standard deviations. This comparison was used to determine the differences and the level of confidence of these differences.

Table 6. Total group aptitude scores compared to the GATB norms

GATB APTITUDES	GATB MEAN	TOTAL GROUP MEAN	DIFFERENCE BETWEEN MEAN	TOTAL GROUP S.D.	C.R.
G	100	89.71	10.31	16.53	5.59 **
V	100	87.82	12.18	13.79	8.29 **
N	100	89.51	10.49	18.25	7.34 **
S	100	101.12	1.12	18.48	.77
P	100	103.17	3.17	18.49	2.17 *
Q	100	95.96	4.04	12.45	4.00 **
K	100	100.56	.56	20.85	.34
F	100	100.07	.07	26.87	.03
M	100	109.51	9.51	24.87	4.90 *

* Significant at the .05 level of confidence (1.97 Critical-Ratio is required for significance at the .05 level)

** Significant at the .01 level of confidence (2.60 Critical-Ratio is required for significance at the .01 level)

From the data in Table 6 it can be seen that the aptitudes G (Intelligence, V (Verbal), and N (Numerical), and Q (Clerical Perception) were significantly different at the .01 level of confidence. Since

these mean score variations were below the established national mean score norms of 100, it was assumed that on these aptitudes the total group was significantly below normal.

Since aptitudes G. V, and N relate to intelligence, learning situations requiring the utilization of these aptitudes would have to be geared to these limitations.

In addition to those aptitudes related to intelligence, G.V, and N, which were significant at the .01 level, and below the national mean score, aptitude Q (Clerical Perception) was also significant at the .01 level, and below the national mean score of 100. This difference between the mean score of the sample group and the national norm indicates that the total group sample was slightly handicapped in terms of clerical learning situations. The standard deviation of 12.45 was 7.55 below the national standard deviation of 20, which indicates that the differences within the group were not as great as could be expected in a normal group.

Aptitude M (Manual Dexterity) was also found to be significant at the .01 level of confidence. The mean score of 109.51 and the standard deviation of 24.87 were both above the established national norms. Therefore, the total sample group has above average ability in manual dexterity and the group was found to be more widely separated in this aptitude than the national sample group.

Aptitude P (Form Perception) was found to be significant at the .05 level of confidence. The mean score of 103.17 shows that the total group was slightly above the average for this aptitude.

In order to complete the examination of the aptitudes of the sample group as compared to aptitude norms established by the General Aptitude

Test Battery, a comparison was made between each of the subgroups and the established national norms. This comparison of the subgroups to the national norms illustrated differences within each subgroup which were not evident when these groups were combined in the large sample group.

The data presented in Table 7 illustrates the aptitude differences between males confined once and the aptitude norms established by the General Aptitude Test Battery.

Table 7. Group 1 (males confined once) aptitudes compared to GATB norms

GATB APTITUDES	GATB MEAN	GROUP 1 MEAN	DIFFERENCE BETWEEN MEAN	GROUP 1 S.D.	C.R.
G	100	89.87	10.13	17.07	4.84 **
V	100	87.69	12.31	14.28	7.03 **
N	100	87.63	12.37	19.01	5.31 **
S	100	101.03	1.03	18.66	.45
P	100	97.79	2.21	19.18	.94
Q	100	91.62	8.38	11.13	6.03 **
K	100	95.57	4.43	21.67	1.67
F	100	93.09	6.91	25.58	2.21 *
M	100	107.91	7.91	24.44	2.65 *

* Significant at the .05 level of confidence (2.00 Critical-Ratio is required for significance at the .05 level)

** Significant at the .01 level of confidence (2.66 Critical Ratio is required for significance at the .01 level)

Some of the aptitude differences of this subgroup were comparable with the results obtained by the total group sample. As in the total

sample group comparison, aptitudes G (Intelligence), V (Verbal), N (Numerical), and Q (Clerical Perception) were significant at the .01 level. Aptitude M (Manual Dexterity) was also found to be significant at the .05 level.

However, for this subgroup, one other aptitude, F (Finger Dexterity), emerged as being significant at the .05 level. The mean score of 93.09 for this aptitude was 6.91 below the national average. Therefore, when this subgroup is isolated from the total group sample, it is deficient in five of the nine aptitudes, as opposed to four deficiencies for the entire sample group. In addition, the standard deviation of 25.58 for aptitude F (Finger Dexterity) indicates a wider range of abilities in this subgroup for this aptitude than for the national norm deviations.

The data presented in Table 8 illustrates the aptitude differences between males confined twice or more and the aptitude norms established by the General Aptitude Test Battery.

Table 8. Group 2 (males confined twice or more) aptitudes compared to GATB norms

GATB APTITUDES	GATB MEAN	GROUP 2 MEAN	DIFFERENCE BETWEEN MEANS	GROUP 2 S.D.	C.R.
G	100	89.87	10.13	15.63	4.31 **
V	100	84.86	15.14	13.38	7.50 **
N	100	91.76	8.24	18.64	2.95 **
S	100	101.95	1.95	16.70	.78
P	100	103.87	3.87	20.79	1.24
Q	100	93.36	6.64	12.73	3.46 **
K	100	104.42	4.42	24.06	1.22
F	100	109.80	9.80	24.77	2.64 *
M	100	120.49	20.49	23.30	5.68 **

* Significant at the .05 level of confidence (2.02 Critical-Ratio is required for significance at the .05 level)

** Significant at the .01 level of confidence (2.69 Critical-Ratio is required for significance at the .01 level)

As in the total sample group comparison of aptitudes, aptitudes G (Intelligence), V (Verbal), N (Numerical), and Q (Clerical Perception) were significant at the .01 level. Aptitude M (Manual Dexterity) was found to be significant at the .05 level of confidence. The mean of 120.49 was 20.49 above the national average. This indicates that the group has extremely high ability in manual dexterity. Aptitude F (Finger Dexterity) was also significant at the .05 level with a mean of 109.80 and a standard deviation of 24.77. Since both of these scores were above the national norms, the subgroup containing males who have been confined twice or more has better than average ability in finger dexterity. The deviation difference indicates that there was more variance in aptitude within the group than would be found in a normal sample.

The data in Table 9 illustrates the differences in aptitudes between females confined once and the national norms established by the General Aptitude Test Battery.

As in the total sample group comparison, aptitudes G (Intelligence), V (Verbal), and N (Numerical) were significant at the .01 level of confidence. However, aptitude Q (Clerical Perception) was not different from the average established norm, except that the standard deviation was below the average of 20, which would indicate that this subgroup of females does not deviate very much within the group.

Aptitude P (Form Perception) for this sample sub-group was significant at the .01 level, with a mean of 110.36 and a standard deviation of 17.16. Therefore, this subgroup has above average form perception, and the variance within the group was not as great as in an average group.

The data in Table 10 illustrates the differences in aptitudes between

females confined twice or more, and the national norms established by the General Aptitude Test Battery.

Table 9. Group 3 (females confined once) aptitudes compared to GATB norms

GATB APTITUDES	GATB MEAN	GROUP 3 MEAN	DIFFERENCE BETWEEN MEANS	GROUP 3 S.D.	C.R.
G	100	88.97	11.03	16.48	4.14 **
V	100	90.37	9.63	13.43	4.43 **
N	100	89.28	10.72	17.54	3.78 **
S	100	101.64	1.64	20.73	.49
P	100	110.36	10.36	17.16	3.74 **
Q	100	103.26	3.26	13.76	1.46
K	100	102.52	2.52	14.13	1.10
F	100	98.54	1.46	27.33	.33
M	100	102.18	2.18	26.60	.51

* Significant at the .05 level of confidence (2.02 Critical-Ratio is required for significance at the .05 level)

** Significant at the .01 level of confidence (2.71 Critical-Ratio is required for significance at the .01 level)

Table 10. Group 4 (females confined twice or more) aptitudes compared to GATB norms

GATB APTITUDES	GATB MEAN	GROUP 4 MEAN	DIFFERENCE BETWEEN MEANS	GROUP 4 S.D.	C.R.
G	100	90.41	9.59	16.76	2.36 *
V	100	90.35	9.65	13.70	2.88 *
N	100	91.34	8.66	15.39	2.30 *
S	100	98.18	1.82	16.61	.45
P	100	106.35	6.35	16.66	1.56
Q	100	103.47	3.47	13.62	1.04
K	100	105.70	5.70	21.24	1.10
F	100	105.82	5.82	34.03	.71
M	100	103.70	3.70	26.54	.57

* Significant at the .05 level of confidence (2.13 Critical-Ratio is required for significance at the .05 level)

** Significant at the .01 level of confidence (2.95 Critical-Ratio is required for significance at the .01 level)

As in the total sample group comparison, aptitudes G (Intelligence), V (Verbal), and N (Numerical) were significantly different, except the level of confidence was .05 rather than .01 as in the total group sample. It is assumed that the small number of students in this subgroup causes the level of confidence to drop from .01 to .05. However, aptitude Q (Clerical Perception) was not different from the national norm, except that the standard deviation was below the average of 20, which would indicate that this subgroup of females does not have a large degree of variance in this aptitude within the group.

Summary

When the total sample group aptitude scores were compared to the national norms established by the General Aptitude Test Battery, aptitude M (Manual Dexterity) was significantly above the national norm at .01 level of confidence, and aptitude P (Form Perception) was significantly above the mean at the .05 level of confidence. Four aptitudes, G (Intelligence), V (Verbal), N (Numerical), and Q (Clerical Perception) were significantly below the national established norms at the .01 level of confidence.

Group 1 (males confined only once) was significantly above the average norm in only aptitude M (Manual Dexterity) at the .05 level, and below average norms in aptitudes G (Intelligence), V (Verbal), N (Numerical), and Q (Clerical Perception) at the .01 level, as well as aptitude F (Finger Dexterity) at the .05 level. Therefore, this subgroup has limited ability in five of the nine aptitudes.

Group 2 (males confined twice or more) was significantly above the national norms in aptitudes F (Finger Dexterity) at the .05 level of confidence, and aptitude M (Manual Dexterity) at the .01 level. This

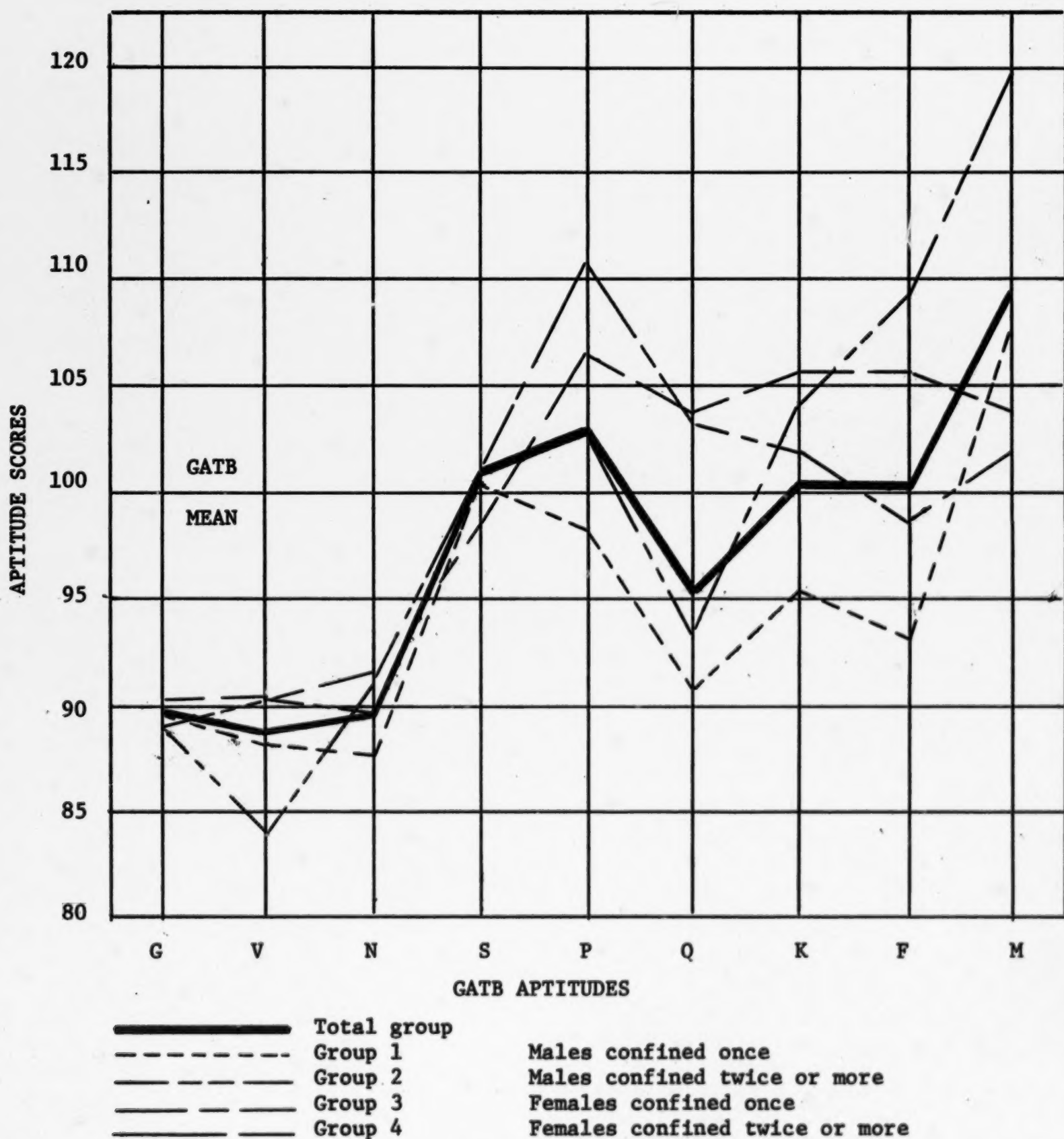
subgroup was below the average mean in aptitudes G (Intelligence), V (Verbal), N (Numerical), and Q (Clerical Perception) at the .01 level.

Group 3 (females confined once) was significantly above the national norms in aptitude P (Form Perception) at the .01 level, and below the established national norms in aptitudes G (Intelligence), V (Verbal), and N (Numerical) at the .01 level of significance.

Group 4 (females confined twice or more) was below national norms in aptitudes G (Intelligence), V (Verbal), and N (Numerical) at the .05 level. However, the small number of students in this group could account for the small degree of significant differences.

Figure 1 on the following page was designed to show the relationship between the aptitude scores obtained by the total group and the subgroups as they compare to the national mean score of 100 on the General Aptitude Battery.

Figure 1. Comparison of group aptitude mean scores on the General Aptitude Test Battery



The data illustrated in Figure 1 indicates that all of the groups were below the mean score of 100 for the General Aptitude Test Battery on aptitudes G (Intelligence), V (Verbal), and N (Numerical).

Data in Figure 1 also indicates that group 2 (males confined twice or more) was the lowest in the V (Verbal) aptitude, and highest in aptitude F (Finger Dexterity) and aptitude M (Manual Dexterity).

Question 2

What are the differences between the achievement of students aged 15.5 to 18.5 confined to the Utah State Industrial School and the norms established by the California Achievement Test?

The data relating to this question was obtained by comparing achievement results on the California Achievement Test to the established norms. The norms for the California Achievement Test, form x and y, were established in 1963. The test is given to all students at the institution for academic placement purpose and serves to evaluate, diagnose, and measure achievement in relation to age and levels of performance.

The test yields scores indicating levels of grade placement in reading, arithmetic, language, and a total test battery score. These scores are related to the students' chronological age to obtain the level of achievement for proper grade placement.

The data in Table 11 illustrates the comparison of mean month achievement level for each of the four composite scores of the total sample of 169 students, and the normal grade placement level for students of the same average chronological age.

Since it was evident from the data that the student sample being tested differed significantly at the .01 level of confidence from the established norms, no statistical analysis was applied to the sample.

Table 11. Total group achievement level compared to CAT norms

CAT	MEAN MONTHS	GRADE PLACEMENT IN YEARS	AMOUNT RETARDED IN YEARS
Reading	159.99	7.7	3.6
Arithmetic	157.48	7.5	3.8
Language	158.76	7.6	3.7
Total Battery	158.92	7.6	3.7
Average Chronological Age		16 years	9 months
Normal Grade Placement in Years		11.3	
Normal Grade Placement in Months		201	

The data in Table 11 illustrates that the total group sample was significantly below the established average in all of the grade placement levels on each part of the California Achievement Test.

The amount of retardation ranged from 3.6 to 3.8 grade levels. Therefore, although the average chronological age of the group indicates that they should be in the 11th grade in school, they are capable of a performance level of only upper 7th grade.

It should be noted that the amount of retardation in each of the test areas differs very little from area to area, indicating a great consistency in the amount of retardation.

The data in Table 12 illustrates the first of the subgroup findings related to the California Achievement Test. This Table indicates the grade placement level of Group 1, males confined to the institution once, as compared to normal grade placement on the California Achievement Test.

Table 12. Group 1 (males confined once) achievement levels compared to CAT norms

CAT	MEAN MONTHS	GRADE PLACEMENT IN YEARS	AMOUNT RETARDED IN YEARS
Reading	160.98	7.8	3.4
Arithmetic	157.91	7.6	3.6
Language	155.51	7.4	3.8
Total Battery	157.81	7.6	3.6
Average Chronological Age		16 years	7 months
Normal Grade Placement in Years		11.2	
Normal Grade Placement in Months		199	

Table 12 illustrates that the overall achievement level of this group was well below what could normally be expected of students in this age group. The amount of retardation ranges from 3.4 grade levels in arithmetic, to 3.8 grade levels in the language area. Chronologically this group should be capable of performing beginning 11th grade work, but based on actual achievement as measured by the California Achievement Test, they can perform at only middle 7th grade level academically.

The data in Table 13 illustrates the academic grade placement of subgroup 2, males confined twice or more at the institution, compared to normal grade placement levels established by the California Achievement Test.

The data in Table 13 indicates the overall achievement level of group 2 and relates the level of retardation compared to the established norms. The normal grade placement in school for this group should be

Table 13. Group 2 (males confined twice or more) achievement levels compared to CAT norms

CAT	MEAN MONTHS	GRADE PLACEMENT IN YEARS	AMOUNT RETARDED IN YEARS
Reading	155.76	7.4	3.7
Arithmetic	153.47	7.2	3.9
Language	151.87	7.1	4.0
Total Battery	154.53	7.3	3.8
Average Chronological Age		16 years	6 months
Normal Grade Placement in Years		11.1	
Normal Grade Placement in Months		198	

at the beginning of the 11th grade; however, according to their achievement on the California Achievement Test, they are capable of performing only beginning 7th grade work. The deficiency in grade placement ranges from 3.7 in reading to 4.0 in language, which represents a slightly larger degree of variability than in the total group sample.

The data in Table 14 illustrates the academic grade placement of subgroup 3, females confined once at the institution, compared to normal grade placement levels established by the California Achievement Test.

The data in Table 14 indicates that the females in group 3 were below the expected average of achievement academically for students in their age area. This group was the least retarded in language, being only 2.9 grade levels below the norm; however, they are retarded 3.7 levels in arithmetic.

This group, according to their chronological age, should be performing at about middle 11th grade level, but according to actual

Table 14. Group 3 (females confined once) achievement levels compared to CAT norms

CAT	MEAN MONTHS	GRADE PLACEMENT IN YEARS	AMOUNT RETARDED IN YEARS
Reading	162.13	8.0	3.4
Arithmetic	159.74	7.7	3.7
Language	169.18	8.5	2.9
Total Battery	163.62	8.3	3.1
Average Chronological Age		16 years	10 months
Normal Grade Placement in Years		11.1	
Normal Grade Placement in Months		202	

achievement they were capable of performing only at the beginning 8th grade level.

The data in Table 15 illustrates the academic grade placement of subgroup 4, females confined twice or more at the institution, compared to normal group placement levels established by the California Achievement Test.

Table 15. Group 4 (females confined twice or more) achievement levels compared to CAT norms

CAT	MEAN MONTHS	GRADE PLACEMENT IN YEARS	AMOUNT RETARDED IN YEARS
Reading	162.29	8.0	3.8
Arithmetic	161.18	7.9	3.9
Language	166.06	8.3	3.5
Total Battery	164.18	8.1	3.7
Average Chronological Age		17 years	2 months
Normal Grade Placement in Years		11.8	
Normal Grade Placement in Months		206	

The data in Table 15 indicates the overall achievement level of this subgroup as being considerably below what could be expected of a normal group sample in this age bracket. Group 4 was the most seriously retarded group in arithmetic, 3.9 levels, and least retarded in language, 3.5 levels.

Chronologically this group should be achieving academically at the late 11th grade level, but based on their California Achievement Test Scores they are capable of doing only 8th grade work.

Summary

From the data contained in Tables 11 through 15 it was determined that the total group sample, as well as the students in the subgroup samples, do not achieve academically up to the norms established by the California Achievement Test.

Although the average age range for the subgroups varies from 16 years, 6 months, to 17 years, 2 months, approximately the same range of under achievement exists in all subgroups. The females confined only once have the overall lowest level of retardation, and the boys confined twice or more show the greatest level of retardation.

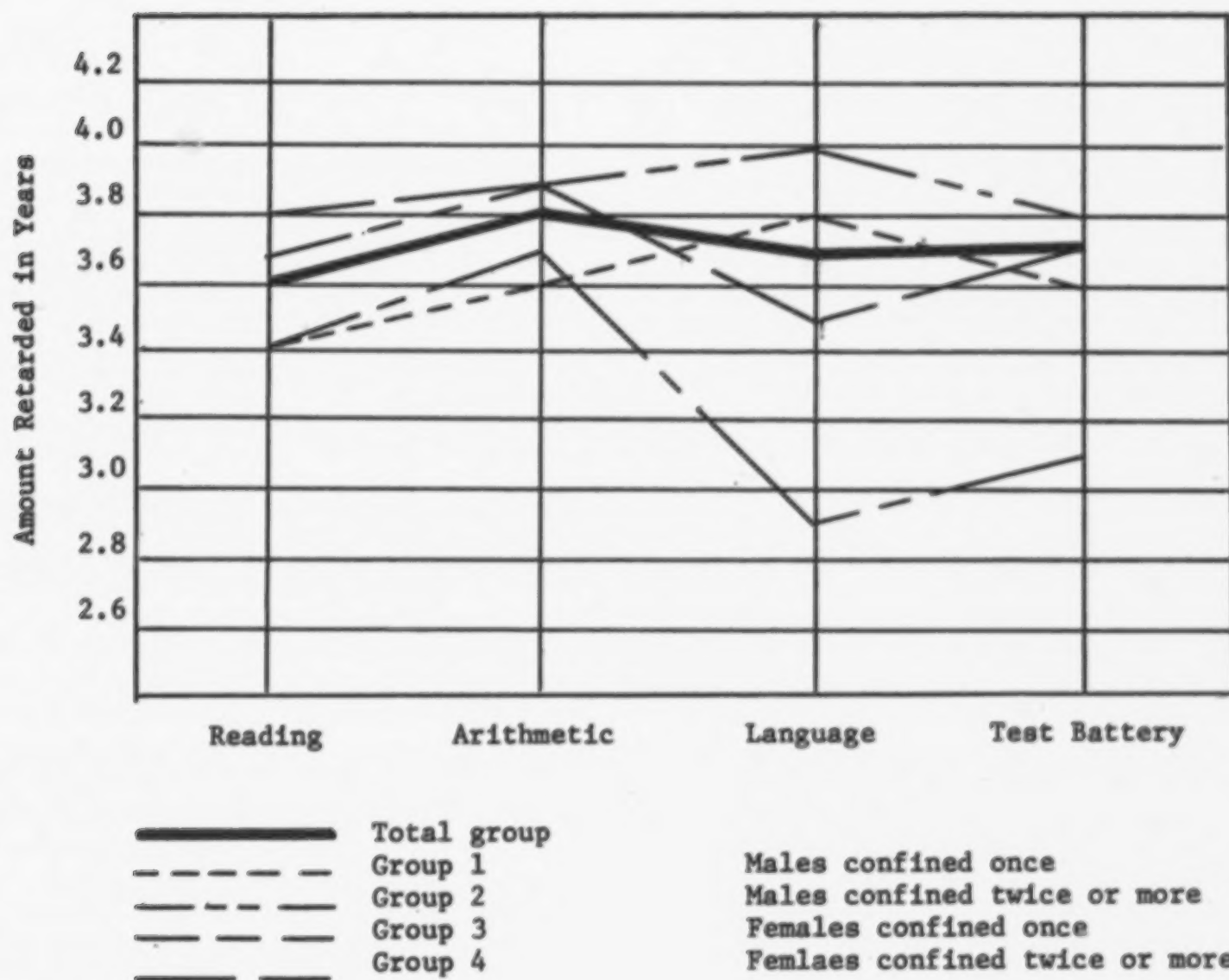
The only achievement test area which was not at least a full 3.0 grades below the average normal population was the language area for females confined once, where the amount of retardation was 2.9 years.

The total sample group of students was identified as being 3.7 grade levels retarded academically on the total test battery.

These findings were based on norms established by the California Achievement Test.

Figure 2 will graphically illustrate the amount of retardation determined by the scores on the California Achievement Test.

Figure 2. Amount of group retardation on the California Achievement Test



Question 3

What are the differences between the aptitudes and achievement of students aged 15.5 to 18.5 who have been confined to the institution only once, as compared to those who have been confined to the institution more than once?

During the presentation of data relating to questions 1 and 2, no attempt was made to analyze comparisons between the four subgroups. The data presented in the first two questions were used to establish the differences in aptitude and achievement of all groups as compared to national norms established by the General Aptitude Test Battery and the California Achievement Test.

In order to fully understand the total degree of group differences it was necessary to make a comparison between subgroups in terms of aptitudes and achievement.

The data in Table 16 illustrates a composite table of the mean scores and standard deviations as they were presented in tables 7 through 10 in question 1.

In order to ascertain if there were any differences in aptitudes between the subgroups, each of the nine aptitudes in one subgroup was compared to the same aptitude scores in the other three subgroups. The significant difference between the means were analyzed by formula 56b (Garrett, 1965, p. 214), and the critical-ratio test for significance. The critical-ratio test for significance was based on the sample numbers being compared.

In order to more clearly report the data relating to significant differences between the mean aptitude scores in Table 16, it was necessary to construct Table 17.

Table 16. Composite subgroup aptitude scores on the GATB

	GROUP 1 N = 68		GROUP 2 N = 45		GROUP 3 N = 39		GROUP 4 N = 17	
	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
G	89.87	17.07	89.97	15.63	88.97	16.48	90.41	16.77
V	87.69	14.28	84.87	13.38	90.36	13.43	90.35	13.70
N	87.63	19.01	91.76	18.64	89.28	17.54	91.65	15.39
S	101.03	18.66	101.96	16.70	101.64	20.72	98.12	16.61
P	97.79	19.18	103.87	20.79	110.36	17.16	106.35	16.66
Q	91.62	11.13	93.36	12.73	103.26	13.76	103.47	13.62
K	95.57	21.67	104.42	24.06	102.51	14.13	105.71	21.24
F	93.09	25.58	109.80	24.77	98.54	27.33	105.82	34.03
M	107.91	24.44	120.49	23.30	102.18	26.61	103.71	26.54

The data presented in Table 17 identifies the subgroups and those aptitudes which were found to be significantly different when compared from one subgroup to the others. The table first indicates the number of the subgroups being compared, and then identifies the aptitudes which showed a significant difference between the indicated subgroups.

The data in Table 17 illustrates that generally males and females differ significantly in aptitudes P (Form Perception), Q (Clerical Perception, F (Finger Dexterity), and M (Manual Dexterity). Both male groups differ from both female groups in aptitude Q (Clerical Perception).

Subgroup 1 (males confined once) differs from group 2 (males

Table 17. Comparison of aptitude differences between subgroups

SUBGROUPS	APTITUDE * DIFFERENCE
1 to 2	F (Finger Dexterity) M (Manual Dexterity)
1 to 3	Q (Clerical Perception) P (Form Perception)
1 to 4	Q (Clerical Perception) F (Finger Dexterity)
2 to 3	Q (Clerical Perception) M (Manual Dexterity)
2 to 4	Q (Clerical Perception) M (Manual Dexterity)
3 to 4	No Differences

* Each of the above differences in aptitudes from one subgroup to another was significant at the .01 level of confidence.

confined more than once) in aptitude F (Finger Dexterity), and aptitude M (Manual Dexterity). Group 1 (males confined once) was different from subgroup 3 (females confined once) in aptitude P (Form Perception), and from subgroup 4 (females confined more than once) in aptitude F (Finger Dexterity).

Group 2 (males confined more than once) was different from subgroup 3 (females confined once), and 4 (females confined more than once) in aptitude M (Manual Dexterity).

The females in subgroups 3 and 4 did not show any significant differences in their aptitudes.

The data presented in Table 18 is a composite table of mean month scores and standard deviations as presented in Tables 12 through 15 in

question 2, relating to achievement levels.

In order to determine the differences between the subgroups, each of the four achievement scores in one group was compared to the same achievement score in the other three subgroups. This comparison was accomplished by using the significance of difference between means, formula 56b (Garrett, 1965, p. 214), and the critical-ratio test.

Table 18. Composite subgroup comparison in achievement levels

	GROUP 1		GROUP 2		GROUP 3		GROUP 4	
	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
R	160.99	32.96	155.76	27.08	162.13	28.87	162.29	26.61
A	157.91	21.97	153.47	17.78	159.74	20.49	161.18	18.70
L	155.51	26.82	151.87	21.03	169.18	22.63	166.07	18.37
B	155.80	27.36	154.53	20.38	163.62	22.51	163.18	17.92

In comparing the mean differences of the subgroup scores in the area of achievement, it was discovered that the groups differ in only one of the four achievement levels. Both male groups (1 and 2) differ from both female groups (3 and 4) in their achievement level in language. Male group 1 (confined once) was significantly different at the .05 level of confidence in language from both female groups, while male group 2 (confined more than once) was significantly different at the .01 level of confidence in language from subgroups 3 and 4 (females).

Summary

When presenting data related to question 3 it was discovered that there were some differences between the subgroup samples of males and

females in both aptitudes and achievement levels. These differences were significant in all cases at the .01 level of confidence.

In aptitudes, the males differed from the females in aptitudes P (Form Perception), Q (Clerical Perception), F (Finger Dexterity), and M (Manual Dexterity). The two male groups differed from each other in aptitudes F (Finger Dexterity) and M (Manual Dexterity). There was no significant difference in aptitudes between the two female subgroups.

In achievement level, the groups were different in only the language area. The males in subgroup 1 (confined once) were significantly different at the .05 level of confidence from both of the female groups, and group 2 (males confined more than once) was significantly different from both female groups at the .01 level of confidence.

Question 4

Which Occupational Aptitude Patterns are most prevalent among the 15.5 to 18.5 year old students confined to the Utah State Industrial School?

The preceeding three questions were designed to measure the differences in aptitudes of the total group and subgroups compared to national norms established by the General Aptitude Test Battery, to measure achievement levels of the total group and subgroups against those norms established by the California Achievement Test, and to make comparisons between the subgroups related to aptitudes and achievement. These comparisons of aptitudes and achievement measure the strengths and weaknesses of the group as it relates to the general populous, and as the subgroups compare to each other, but they do not indicate the occupational competencies of the sample group.

The data presented to interpret question 4 was designed to enumerate the group occupational competencies based on the Occupational Aptitude Patterns of the General Aptitude Test Battery. Each of the 36 Occupational Aptitude Patterns was established by the United States Employment Service. Although these patterns have been changed often since they were established, this study will be concerned with the latest Occupational Aptitude Patterns identified in 1966, and based on the multiple cut-off level of the General Aptitude Test Battery Aptitudes. Within each Occupational Aptitude Level, a series of occupations requiring certain aptitudes are identified. (GATB Manual, Section II, 1966) The occupations are identified by a Dictionary of Occupational Titles number. This Dictionary of Occupational Titles carries a complete description of the requirements for each occupation.

In order to clarify the Occupational Aptitude Patterns, the following sample has been included. From each of the Occupational Aptitude Patterns the following information can be obtained: (1) three aptitudes of the Occupational Aptitude Pattern, (2) the multiple-cutting scores for the aptitudes, (3) occupations which require these aptitudes, and (4) identification of occupations by Dictionary of Occupational Titles numbers.

OAP - 23

GATB NORMS

Aptitudes	Adult	Grade 10	Grade 9
N (Numerical Aptitude).....	95	90	88
P (Form Perception).....	100	97	92
Q (Clerical Perception)....	105	101	96

Adding-Machine Operator, 216.488
*Bookkeeping-Machine Operator I,
215.388, S-5

*A test development study has been conducted for this occupation and a significant correlation has been obtained between the OAP norms and the criterion for this occupation.

*Calculating Machine Operator,
216.488, S-90
*Comptometer Operator,
216.488, S-90
Posting Clerk, 219.588
Posting Machine Operator I,
219.588

(GATB Manual, Sect II, 1966, p. 35)

In order to identify the specific occupations within each Occupational Aptitude Pattern, it is necessary to consult the General Aptitude Test Battery Manual, Section II, Norms, 1966.

The data in Table 19 illustrates the number of percentages of each group qualifying for each of the Occupational Aptitude Patterns. The number of qualifying students in each group was converted into percentages since the number of students in each group was not the same. The percentage was based on the number of qualifying students within each group, related to the total number within the group; therefore, the column percentages will not equal 100%.

In order to determine if the groups were significantly different from one another, the percentages were compared using formula 64 (Garrett, 1965, p. 235).

In order to accurately interpret the meaning of Table 19, it would be necessary to first establish the criteria for evaluating it. From a practical point of view, those Occupational Aptitude Patterns for which 100% of the students qualify would be the ideal basis for a vocational program; however, this figure is not realistic. It is highly improbable that this uniform situation would ever arise at the Utah State Industrial School since the student population is a very heterogeneous group rather than a homogeneous one.

Therefore, a more realistic view must be taken in order to properly interpret the data in Table 19. It will be necessary to establish a percentage limit which would benefit a logical portion of the students.

It should also be mentioned that students may qualify in none or all of these Occupational Aptitude Patterns; therefore, it is necessary to interpret each individual's aptitude abilities in order to select the most appropriate program for the individual.

From the data presented in Table 19 it is determined that only groups 1 (males confined once) and 2 (males confined more than once) were significantly different at the .01 level, and this difference was in Occupational Aptitude Patterns 27 and 28. However, because each of the four subgroups has a relatively small number of students within these groups, a true measure of the differences was not obtained.

Table 19 indicates that 80% of the students qualified for OAP-28. The minimum multiple cut-off aptitude score for OAP-28 is 75 in aptitude S (Spatial), P (Form Perception), and M (Manual Dexterity). There are 23 specific occupations listed for this OAP. These occupations vary from dental-laboratory technician to machine operators or veneer grader. (GATB Manual, Sect. II, 1966, p. 40)

The next most prevalent Occupational Aptitude Patterns were OAP-31, and OAP-32. These two Occupational Aptitude Patterns had at least 70% of the sample qualifying. The minimum aptitude requirements for CAP-31 were scores of 85 in aptitude P (Form Perception), 80 for aptitude K (Motor Coordination), and 80 for aptitude M (Manual Dexterity). A total of 68 specific occupations are listed for this Occupational Aptitude Pattern. These occupations range from counter girl to farm hands and typewriter serviceman. OAP-32 requires a minimum aptitude score

Table 19. Number and percentage of students qualifying for each of the 36 Occupational Aptitude Patterns

OCCUPATIONAL APTITUDE PATTERNS																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
GROUP 1																				
MALES CONFINED ONCE																				
N= 68																				
1	3	7	4	14	7	10	13	16	21	23	8	7	21	24	27	34	31	37	38	
02	04	10	06	21	10	15	19	24	31	34	12	10	31	35	40	50	46	54	56	
NUMBER QUALIFIED PERCENTAGE																				
GROUP 2																				
MALES CONFINED TWICE OR MORE																				
N=45																				
1	1	2	3	7	3	4	6	8	12	14	7	7	16	14	21	27	27	30	33	
02	02	04	07	16	07	09	13	18	27	31	16	16	36	31	47	60	60	67	73	
NUMBER QUALIFIED PERCENTAGE																				
GROUP 3																				
FEMALES CONFINED ONCE																				
N=39																				
0	1	4	5	9	6	8	9	13	12	14	13	13	12	14	17	20	24	24	23	
00	03	10	13	23	15	21	23	33	31	36	33	33	31	36	44	51	62	62	59	
NUMBER QUALIFIED PERCENTAGE																				
GROUP 4																				
FEMALES CONFINED TWICE OR MORE																				
N= 17																				
0	1	1	2	3	2	2	3	5	6	6	4	6	5	5	7	11	9	13	11	
00	06	06	12	18	12	12	18	29	35	35	24	35	29	29	41	65	53	76	65	
NUMBER QUALIFIED PERCENTAGE																				
TOTAL GROUP																				
N= 169																				
2	6	14	14	33	18	24	31	42	51	57	32	33	54	57	72	92	91	04	105	
01	04	08	08	20	11	14	18	25	30	34	20	20	32	34	43	54	54	62	62	
NUMBER QUALIFIED PERCENTAGE																				

Table 19. (Cont.)

OCCUPATIONAL APTITUDE PATTERNS

21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 ALL NONE

GROUP 1																N= 68	
MALES CONFINED ONCE																	
32	42	8	23	28	30	37	51	34	33	42	44	29	29	36	3	0	0
47	62	12	34	41	44	54	75	49	49	62	65	43	43	53	04	00	00
																NUMBER QUALIFIED	
																PERCENTAGE	
GROUP 2																N=45	
MALES CONFINED TWICE OR MORE																	
26	34	6	19	26	28	33	41	29	28	33	37	24	30	30	6	1	0
58	75	13	42	58	62	73	91	64	62	73	82	53	60	60	13	02	00
																NUMBER QUALIFIED	
																PERCENTAGE	
GROUP 3																N=39	
FEMALES CONFINED ONCE																	
25	25	9	17	22	22	19	31	23	20	31	26	23	20	25	10	0	0
64	64	23	44	56	56	49	80	59	51	76	66	59	51	64	26	00	00
																NUMBER QUALIFIED	
																PERCENTAGE	
GROUP 4																N= 17	
FEMALES CONFINED TWICE OR MORE																	
12	11	5	10	10	9	10	13	11	10	12	13	12	9	12	2	0	0
71	65	29	59	59	53	59	76	65	59	71	76	71	53	71	12	00	00
																NUMBER QUALIFIED	
																PERCENTAGE	
TOTAL GROUP																N= 169	
95	112	28	69	86	89	99	136	97	91	118	120	88	88	103	21	1	0
56	66	17	41	51	53	59	80	57	54	70	71	52	52	61	12	00*	00

* less than 1%

of 75 in P (Form Perception), 80 in F (Finger Dexterity), and 80 in M (Manual Dexterity). There are 111 specific occupations listed for this Occupational Aptitude Pattern. These occupations range from apple pickers to machine feeders or zipper sewers. (GATB Manual, Sect. II, 1966, p. 43-46).

If we consider only individual subgroups, the percentage could be established at random. For example, if 80% was the level set, subgroups 1 (males confined once) and 4 (females confined more than once) would have no qualifiers, while group 2 (males confined more than once) would have qualified in one Occupational Aptitude Pattern OAP-32 and group 3 (females confined once) would have qualified in OAP-28.

Group 2 (males confined more than once) had the highest percentage of qualifying students at 91% for OAP-28, while groups 3 (females confined once) and 4 (females confined more than once) had the lowest with no qualifying students in OAP-1.

It should be pointed out that the category All and None in the Occupational Aptitude Pattern row in the table are not constructed the same as the other 36 Occupational Aptitude Patterns. The All category identifies students who qualify for all of the 36 patterns. Subgroup 2 (males confined more than once) had one student in this area. The category None identifies students who do not qualify for any of the 36 Occupational Aptitude Patterns. Since this category does not contain any numbers it was assumed that all of the students tested have qualified in at least 1 of the 36 Occupational Aptitude Patterns.

The data in Table 20 were presented to clarify the previous table and to illustrate the Occupational Aptitude Patterns that each subgroup and the total group qualify for by percentages.

It should be remembered when considering this table, also, that a student can qualify for all or none of the Occupational Aptitude Patterns.

Table 20. Comparison of Occupational Aptitude Patterns by groups and percentages

PERCENTAGE QUALIFYING	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP TOTAL
Less than 10%	1,2,4,36	1,2,3,4, 6,7	1,2	1,2,3	1,2,3,4
10 - 19%	3,6,7,8, 12,13,23	5,8,9,12, 13,23,36	3,4,6	4,5,6,7, 8,36	6,7,8,23, 36
20 - 29%	5,9	10	5,7,8,23, 36	9,12,14, 15,23	5,9,12,13
30 - 39%	10,11,14, 15,24	11,14,15	9,10,11, 12,13,14, 15	10,11,13	10,11,14, 15
40 - 49%	16,18,21, 25,26,29, 30,33,34	16,24	16,24,27	16	16,24
50 - 59%	17,19,20, 27,35	21,25,33	17,20,25, 26,29,30, 33,34	18,24,25, 26,27,30, 34	17,18,21, 25,26,27, 29,30,33, 34
60 - 69%	22,31,32	17,18,19, 26,29,30, 34,35	18,19,21, 22,32,35	17,20,22, 29	19,20,22 35
70 - 79%	28	20,22,27, 31	31	19,21,28, 31,32,33, 35	31,32
80 - 89%		32	28		28
More than 90%		28			

From the data presented in Table 20 is shown that less than 10% of the total group qualify for OAP-1, OAP-2, OAP-3, and OAP-4 and less than 20% qualify for OAP-2, OAP-7, OAP-8, OAP-23, and OAP-26, and 50% of the total group qualify for ten of the Occupational Aptitude Patterns, 70% of the total group qualify for OAP-31 and OAP-32, and 80% of the total group qualify for OAP-28.

Summary

The data presented in answering question 4 illustrate the numbers and percentages of students who qualify for each of the 36 Occupational Aptitude Patterns.

In order to fully utilize the data it has to be assumed that a certain percentage of qualifying students in a pattern justifies a specific school program related to that particular Occupational Aptitude Pattern. For example, if the accepted percentage for the total group was established at more than 39% aptitude requirement for Occupational Aptitude Patterns 1 through 15, plus OAP-23 and OAP-36, there would be no students qualify in these areas. However, if 40% was set at the minimum percentage, 68 of the 169 students in the sample group would have the requirements for Occupational Aptitude Patterns 16 through 35, excluding OAP-23.

Within the individual groups, the males of subgroup 2 (those confined more than once) had the highest percentage of acceptance in OAP-28, while the females in both groups did not have anyone qualify for OAP-1.

Question 5

Based on established Occupational Aptitude Patterns, what type of vocational education curriculum would best meet the needs of the students confined at the Utah State Industrial School?

"No institution filled with a heterogeneous assortment of children

whose only common denominator is that their treatment needs have not been met elsewhere, can do the necessary job for each child." (Institutions Serving Delinquent Children, 1963, p. 9) From this quotation it is obvious that there is no one curriculum which is going to serve the vocational needs of every child at the institution, and so the goal of an effective vocational curriculum will be to provide a program which will benefit the majority of the students in the institution.

Before suggesting a type of curriculum for the Utah State Industrial School, it was felt necessary to determine what factors, other than the test results reported in this study, be given consideration in the formation of a vocational curriculum.

The first consideration must be the philosophy which determines the goals of the institution, and establishes what the institution is expected to accomplish. Most penologists emphasize that the purpose of institutionalizing young people should be rehabilitation, rather than punishment, and feel that education is an important instrument for rehabilitation. However, rehabilitation, in this instance, is usually understood to mean helping the student recognize his worth as an individual, and his potential as a member of society, rather than providing specific occupational training. This rehabilitation implies generally providing an environment in which all activities and education are directed at getting the delinquent ready for a successful return to community living.

Other influencing factors which have a direct bearing on the type of educational curriculum which should be offered at an industrial school can be summed up in this quotation from a government booklet concerned with the training needs of young people in institutions:

Although some of these institutions provide training of some sort,

the relatively short period of confinement, the length of time required to learn a trade, and the students frequent lack of readiness to make a serious occupational choice, limit the kind of training that can be given. For the most part, the delinquent can only be introduced to an occupation or trade in a correctional institution. For many, the vocational program is exploratory and prevocational, offering information and a beginning in training. (Young Workers: Their Special Training Needs, 1963, pp. 18-19)

As indicated in this quotation the short period of confinement must be considered as a limiting factor in a vocational curriculum. Earlier in this study it was established that the average length of confinement at the Utah State Industrial School is 9 months, and, therefore, this factor will have a significant bearing on the type of curriculum presented.

In discussing another limiting consideration of curriculum, the students' lack of readiness to make a vocational choice at this age, Super (1957, p. 85) makes this observation: "It is obvious, then, that the school is the adolescent exploratory institution par excellence ...The curriculum of the early years in high school--may properly be viewed as exploratory in its content and purpose." It has generally been accepted that specific occupational aspirations developed by adolescents during this period are relatively meaningless.

Another aspect of the vocational curriculum which should be considered, is that this vocational curriculum should be directly related to the academic curriculum, not separated from it. The following description of a recommended total instructional program makes this clear.

The instructional program should embrace good educational content and practices, have curricula designed to meet the individual needs of the children and the full range of the children's academic levels, utilize significant educational approaches in all work programs, and integrate educational principles and practices with other relevant activities and services of the institutional program. Every aspect of the training school program having clearly defined training values,

including vocational training, should be coordinated with the formalized instructional program of the training school. (Institutions Serving Delinquent Children, 1963, pp. 73-74)

In addition to being closely integrated with the academic program, the vocational education curriculum must be extremely versatile. Although many of these students will enter the work world, some will return to the public schools, and others will seek some sort of specific occupational training. The objectives for vocational educators in these institutions related to curriculum could be stated as follows:

Just as each school must develop its philosophy and objectives and state them in terms that all can understand, so must each school plan the curricula suited to its own particular conditions of pupil population and environment. The curricula must provide for students who will return to grade or high school and for those who will go to work... (Institutions Serving Delinquent Children, 1963, pp. 77-78)

When considering all of the extenuating factors which have a direct bearing on the vocational education curriculum for industrial schools it might be concluded that the best vocational curriculum is an appropriate vocational curriculum, in that it is adjusted to meet the needs of the particular students in an institution.

In examining the needs of the students at the Utah State Industrial School data has been presented which indicates the aptitudes of these students, and from this data has been established the Occupational Aptitude Patterns for ~~which the sample~~ group of students qualify. In order to relate these Occupational Aptitude Patterns to a suggested type of curriculum, it was necessary to employ some sort of limiting factor. Obviously, any group with such a heterogeneous make-up will have a few individuals capable of advanced technical training, and some capable of practically no vocational training. As was indicated at the beginning of this area, it is highly impractical to assume that any curriculum can

do the necessary job for every student.

Based on this philosophy, this analysis will limit the Occupational Aptitude Patterns considered to those for which at least 60% of the students qualify. It would seem impractical to suggest a type of vocational curriculum which would not benefit over half the students. It should, however, be mentioned that even if the percentage of students qualifying for certain Occupational Aptitude Patterns was lowered to just 50%, the same type of curriculum would be advantageous.

When considering Occupational Aptitude Patterns for which 60% of the students qualify, the vocational curriculum would be geared to seven Occupational Aptitude Patterns. These are OAP-28, OAP-31, OAP-32, OAP-19, OAP-22, OAP-20, and OAP-35. (In order of numbers of students who qualify).

These seven Occupational Aptitude Patterns all represent occupations which could be described as semi or low skilled. Some of these seven Occupational Aptitude Patterns have as many as 100 specific occupations which would fall into a particular pattern.

The Occupational Aptitude Pattern which had the highest number of students qualify was OAP-28. (80% of students qualified for this pattern) Using this Occupational Aptitude Pattern as an example it is possible to indicate what relationships exist between OAP-28 and a type of vocational curriculum.

Like the other six Occupational Aptitude Patterns for which 60% of the student sample qualify, OAP-28 contains occupations which are considered semi or low skilled. This implies that the jobs should be filled by individuals who are capable of more than just muscular energy, have some degree of judgement, but who have not completed any specific training.

Although some of the Occupational Aptitude Patterns for which 60% of the students qualify contain over 100 specific occupations, OAP-28 contains 23 listed occupations. It is obvious that it would be impossible to plan a curriculum which would train students specifically for each position listed. In addition, if it were possible to train them for all these specific occupations, there would be no reasonable assurance that these specific jobs would be available when the student was released. Normally, the type of jobs listed in these seven Occupational Aptitude Patterns are those which require very little prior training, and what training is necessary can usually be accomplished quickly with a brief training session on the job.

However, it can be concluded that the hundreds of positions included in these seven Occupational Aptitude Patterns fall into a few general categories. In OAP-28, for example, 7 of the 23 jobs specify some type of machine operation. Therefore, if these students could be introduced to the general characteristics of machines and machine operation, the specific training could be accomplished quickly and efficiently.

Based on the limiting factors which need consideration when planning a vocational education curriculum, and the Occupational Aptitude Patterns for which at least 60% of the sample group qualify, the type of vocational curriculum which would best seem to meet the needs of the students at the Utah State Industrial School is a general vocational curriculum.

Bishop and Tolley (1963, p. 227) make the following observation relating to such general vocational curriculum.

The philosophy underlying this type of curriculum is that basic skills are most vital to the student primarily because they influence the youths' attitude toward work and enhance his self-confidence.

The advantages of a general vocational curriculum for this specific

group are as follows:

1. It will enable the student to be exposed to many different types of occupations, helping him to form more realistic occupational aspirations.
2. It will familiarize the student with the broad world of work.
3. It will help him acquire the basic fundamentals for getting a job.
4. It will generally improve work habits and attitudes.
5. It will not frustrate the majority of students with limited ability, but inspire them to establish realistic vocational goals.

Overall, the great advantage of the general vocational curriculum for these students is that it will provide them with better vocational understanding, so they will know what the world of work is about, and where they fit into the picture, as well as providing minimal skills required for likely entry jobs.

Considering a general vocational program and the advantages of such a program for this type of institution, a government publication has this comment:

The majority of boys and girls in training schools do not, in the main, possess the motivation or frustration tolerance required for the development of a high degree of vocational skill. As a result, the majority of these boys and girls will do unskilled work as long as they are in the labor market---The individual who sets his goals so far beyond his capabilities that it is impossible for him to approach even their achievement, is going to continue through life as a frustrated individual. (Institutional Rehabilitation of Delinquent Youth, 1962, p. 111)

There are other advantages to this type of general vocational curriculum which relate to the limiting factors of curriculum for these institutions discussed earlier in this question. This type of curriculum would lend itself much more readily to the time element involved, in that

it would be far easier to pursue a general vocational program in a limited time. The dangers involved in attempting to provide adequate occupational training in a limited or broken time span often result in a shortened training program as an expedient. The results of such programs are described by Smith. (1967, p. 19)

We cannot afford poor technical education programs for the disadvantaged or any group. They cost almost as much in dollars, waste the time and efforts of students and staff, disappoint employers with inadequately trained workers, and disillusion the youth we are dedicated to serve.

Another of the limiting factors described earlier was that most youths of this age are not prepared to make definite occupational choices, and an occupational training curriculum forces them to make such choices. Occupational choices made under such pressures usually lead to student frustrations and instructor and administrative disappointment, and eventually an ineffective program. Therefore, the general vocational program, by providing for instruction related to the broader and more basic skills, would avoid this problem in that students would be able to pursue some vocational education without having to make specific occupational choices.

Another advantage of the general vocational curriculum for this institution is that it would more adequately fit the needs of employers in industry. Robert Arthur, (1965, pp. 18-20) discusses what industry expects of youths in these terms:

Industry expects the prospective employee to have determined his general field, to realize what will be required of him to pursue that field, and to have basic knowledge upon which to develop the skills it demands. He must have potential in 3 basic areas; aptitude, skill, and knowledge....skills, of course, are developed, but the young worker should have been subjected to basic fundamentals....it is important that the candidate's knowledge be basic and varied.

A more immediate advantage of the general vocational program is that

it can be implemented more effectively by the institution. The changing world of work demands continual modification of an occupational vocational program. This fact is illustrated in a quotation from Institutional Rehabilitation of Delinquent Youth. (1962, p. 106)

Most training schools have tended to de-emphasize vocational training during the past two decades, since industry is changing so rapidly that they cannot hope to keep their tools up-to-date...This has led many training schools to emphasize the development of basic skills or the mastery of simple tools.

Also of practical value to the institution is the fact that it will be far easier to recruit qualified teachers for the general vocational program, rather than a specific occupational curriculum.

Another facet of the general vocational curriculum which should be implemented at the Utah State Industrial School is some form of work experience for the students. This work experience could either be a cooperative work-study program which correlates vocational instruction in school to the work experience out of school, or a work-study program which provides an opportunity for exploratory work experience. There can be little doubt that work experience is a valuable means of integrating education with the life of the community. It serves as a socializing and adjustment device through a generalized contact with the world of work.

That work experience is an invaluable part of the general vocational curriculum has been indicated in the following terms from Youth Employment Programs in Perspective.

The notion that work experience is the best way to impart basic job fundamentals has become so pervasive that it is included almost automatically in programming for the potential dropout or the unemployed youth. It has, in fact, become virtually the distinguishing characteristic of youth employment programs included regardless of the difficulty of providing work stations... (Benjamin, Lesh, Freedman, 1965, p. 71)

In addition to suggesting a general vocational curriculum for the Utah State Industrial School combined with a meaningful work experience program, there is another aspect of the vocational curriculum which needs serious consideration.

A curriculum based on practical considerations and Occupational Aptitude Patterns only cannot succeed unless it provides for the individual personal factors which determine the ultimate degree of success a student might achieve in a particular field. Factors such as individual personality traits and physical capacities are of great importance when attempting to determine the success and satisfaction an individual will derive from work.

Because there are so many extenuating individual factors which determine the type of vocational training most beneficial for each youth, the final vocational curriculum suggestion to result from this study, is that the basis of the vocational curriculum at the Utah State Industrial School should be a strong vocational guidance program.

Only by utilizing the skill and training of a competent vocational guidance counselor, can all of the extenuating factors relating to employment be put together, as there is no mathematical formula guaranteed to achieve success in this area.

As a part of this vocational guidance program, and in addition to personal contact with a vocational guidance counselor, it is suggested that a class in vocational guidance be included as a part of the vocational curriculum.

The purpose of this class would be to explore the various factors involved in making a suitable vocational choice, and to help the student develop a practical plan of action designed to assist him in achieving

this vocational objective.

The advantage of including such a course in the curriculum is that usually these students have had limited opportunities to discover what the demands of various occupations are, and consequently fail in future employment because they have made unrealistic occupational choices. Because of this lack of understanding and limited contact with the world of work, most students make vocational choices based only on interests, and research has demonstrated that the relationship between interest and aptitude scores is relatively low.

A class in vocational guidance, therefore, could aid the student in making a realistic vocational choice by providing the tools with which he could evaluate his own capabilities related to occupational demands.

Chapter IV

SURVEY OF COMPARABLE SCHOOLS

In view of the specialized nature of reform or industrial schools, and the specialized nature of the curriculum it was deemed necessary to determine how comparable schools approach and/or solve the problems of the selection of a vocational curriculum, and the scope of the vocational offerings. A questionnaire consisting of 15 questions was prepared (see Appendix) and mailed to eighteen institutions. These eighteen institutions were selected from a "Directory of Public Training Schools Serving Delinquent Children." The criteria for selection of these eighteen institutions were whether or not they were co-educational, and approximately the same number of students confined as the Utah State Industrial School, and schools handling all age groups (age 10 to 21). Thirteen or 72 per cent of the questionnaires were returned. Seven of the thirteen questionnaires returned were from institutions that were co-educational; four questionnaires returned were from institutions that housed only male students and the remaining two questionnaires were from institutions that housed only female students.

Table 21. The average age of students enrolled in your institution

	<u>Male</u>		<u>Female</u>	
	Number	Per Cent	Number	Per Cent
Under 11				
11-12				
13-14			1	11.11
15-16	10	90.90	7	77.78
17-18	1	9.10	1	11.11

As noted in Table 21 a majority of the confined individuals are between 15 and 16 years of age. This finding is parallel to the present situation at the Utah State Industrial School. Closely related to the average of students is the average sentence (Table 22). While a majority of the institutions stressed that the students are sentenced for an indefinite period, the average sentence varies between 7-12 months.

Table 22. The average sentence for students enrolled in the comparable institutions

	<u>Male</u>		<u>Female</u>	
	Number	Per Cent	Number	Per Cent
Less than 3 months				
3-6 months	2	18.18	1	11.11
7-12 months	7	63.63	6	66.67
13-18 months	2	18.18	2	22.22
19-24 months				
Over 24 months				

Approximately 92 per cent of the institutions surveyed offer a practical arts curriculum (Table 23) which includes such subjects as arts and crafts and woodshop. These schools also differentiate between the practical arts and vocational education (Table 24).

Table 23. Institutions that offer a practical arts curriculum (such as arts and crafts, or woodshop as a part of the general education program)

	Number	Per Cent
Yes	12	92.31
No	1	7.69

Table 24. Institutions that differentiate between vocational training (training for specific jobs) and practical arts (general education)

	Number	Per Cent
Yes	12	92.31
No	1	7.69

As noted in Table 25, all of the schools surveyed offer a well rounded general education curriculum with approximately one hour per day devoted to each of the general academic disciplines. Vocational programs are varied in the time spent per week, ranging from 5 hours to 30 hours, with approximately one-half the programs requiring 15 hours or over per week. Avocational courses occupy the second most time consuming curriculum with six of the reporting schools offering over six hours per week.

Table 25. Time spent in the following classes each week

Subject	Hours Per Week											Over
	3	4	5	6	7	8	9	10	11	12	15	15
English		1	8	1	1			1		1		
Math		1	8	1	1	1				1		
Science		1	9	1				1		1		
Social Science		1	8	1			1			1		
Vocational			2	1				1			3	3
Avocational		1		1	1		1			1	1	1
Art		2	5	1			1					
Other												

The data presented in Table 26 indicates that approximately 70 per cent of the institutions polled have a vocational program for males and 50 per cent have a vocational program for females. As noted in Table 27 90 per cent of the schools allow students to enter the vocational program at approximately age 15.

Table 26. Vocational training program offered

	<u>Male</u>		<u>Female</u>	
	Number	Per Cent	Number	Per Cent
Yes	8	72.73	6	66.67
No	3	27.27	3	33.33

Table 27. The minimum age for students to enroll in a vocational program

	<u>Male</u>		<u>Female</u>	
	Number	Per Cent	Number	Per Cent
Younger than 14				
14-15	7	87.50	5	83.33
16-17	1	12.50	1	16.67
18 and over				

The data gathered relating to how the vocational programs were selected is presented in Table 28. These data illustrate that the comparable schools generally stay close to the guidelines established for the establishment of vocational curriculums in secondary and post high school educational institutions. None of the institutions surveyed indicated that student aptitudes and abilities were considered in the selection of vocational training areas.

The vocational curriculum areas offered (Table 29) are widely scattered, however, lean toward the high skilled, traditional trades including automotive mechanics, building construction, welding, machinist, printer and sheetmetal worker, with these areas accounting for one-third

Table 28. How the vocational curriculum was selected

	Number	Per Cent
Traditional program	2	8.70
Administrative decision	5	21.74
Advisory committee recommendation	4	17.39
Research into employment opportunities in your geographic area	6	26.09
Cooperation with the public employment office	5	21.74
Other	1	4.35

of the total vocational offerings of the institutions surveyed. The programs average approximately 25 weeks of instructing; however, 45 per cent of the schools reported no definite length of their program. Notable difference from the traditional public school program are the numerous service and semi-skilled occupations which are currently being offered.

A notable problem in institutions dealing with confined delinquents is the continual inflow and outflow of youth. The data presented in Table 30 indicates how the surveyed institutions have handled this problem in their vocational curriculums. Six of the responding institutions indicated that students can enter the vocational program at any point in that the instruction is individualized. Two of the institutions have their vocational programs designed on a semester basis and two on a six to eight week segment, all of which require the student to enter at

Table 29. Curriculum areas offered

Curriculum Areas	Length of Program (weeks)	Number of Schools	Percentage
Gas Station Attendant	22.75	5	38.45
Body and Fender	25.50	2	15.38
Mechanics	23.40	6	46.14
General Woods		3	23.07
Building Construction	25.33	2	38.45
Cabinet Making	26.00	1	7.69
Upholstery	25.00	2	15.38
Welding	19.33	5	38.45
Machinist		2	15.38
Sheetmetal		2	15.38
Printing (Platen)	7.69	1	7.69
Printing		1	7.69
~~Nurses Aid~~	~~18.00~~	~~1~~	~~7.63~~
Nurses Aid	18.00	1	7.63
Truck Driver	25.00	1	7.69
Butcher	25.00	4	30.76
Waitress	12.00	3	23.07
Seamstress	15.00	4	30.76
General Labor		2	15.38
Vocational Agriculture	26.00	1	7.69
Home Economics	26.00	1	7.69
Typists	22.00	3	26.15
File Clerks	22.00	3	26.15
Machine Operators	16.00	2	15.38
Cashiers	26.00	1	7.69
Cooks (food service)	19.00	5	38.45
Domestics	8.00	1	7.69
Janitors		1	7.69
Appliance Repair		2	15.38
Gardener	25.00	3	26.15
Practical Nurse	26.00	1	7.69

Table 30. Different entering and leaving dates for students in the vocational program

	Number	Per Cent
Placed in program upon entering institution (individualized program)	6	46.15
Placed on a semester basis	2	15.38
Entrance based on 6 or 8 week segments - student starts vocational program only at the start of a 6 or 8 week segment	2	15.38
No Response	3	23.08

Table 31. Different sentence durations within the vocational program

	Number	Per Cent
Indefinite sentence - completion of training required before release	5	38.46
Enroll in program for duration of stay - no definite completion required	2	15.38
Individualized program - small classes - can enter anytime	1	7.69
Sentences on a semester basis - entrance and completion on semester basis	1	7.69
No Response	4	30.77

the start of the sessions.

The problem is the different sentence durations (i.e., some students are sentenced for three months, others for over a year). As shown in

Table 31 nine institutions are set up in terms of an indefinite sentence, and are required to complete the vocational program prior to release. Four institutions did not respond to this question.

Table 32. Job placement help for students leaving the institution

	Number	Per Cent
Yes	11	84.59
No	2	15.38

Table 33. Percentage of the students placed on full-time jobs after they leave institution

	Number	Per Cent
Less than 20 per cent	7	53.83
20-40 per cent	4	30.76
40-60 per cent		
60-80 per cent	1	7.69
Over 80 per cent		
No Response	1	7.69

Eleven of the comparable schools (Table 32) have job placement aid for students leaving the institution; however, as illustrated in Table 33 approximately 84 per cent of the schools place less than 40 per cent of their students on jobs after being released from the institution. As presented in Table 34 approximately 60 per cent of the institutions reported that less than 60 per cent of their students go back to public

schools. While adequate data is not available for a thorough analysis, it appears that a sizable percentage of the individuals, upon leaving school, are not placed on a job or return to school.

Table 34. Percentage of students that go back to the public schools upon release

	Number	Per Cent
Less than 20 per cent	2	15.38
20-40 per cent	1	7.69
40-60 per cent	5	38.45
60-80 per cent	3	23.07
Over 80 per cent	2	15.38

In summary, the survey of comparable schools have several implications for the selection of a vocational curriculum for the Utah State Industrial school. The first important implication relates to the length of sentences. The survey findings indicated that the average sentence is between 6 months and one year, thus illustrating a need for introducing vocational programs requiring short durations. Secondly, the findings indicate the need to distinguish between vocational and practical arts courses in that both have an important role in the growth of youth. The practical arts can serve as a means of exploring one's interests in possible occupational areas, while the vocational program will build salable skills. It was also noted that the surveyed institutions stay close to the traditional patterns for the selection of vocational programs; however, several schools do thoroughly study the geographic area for specific and proven

needs. These findings imply two needs. First, the necessity to look at the aptitudes, abilities and interests of students of the Utah State Industrial School for selecting those occupations specifically related to the students. Second, these interests, aptitudes and abilities must be compared to the opportunity available within the geographic area to which the individuals will return. It is apparent from the vocational curriculum offered in other schools that the most successful programs are in the area of service, semi-skilled, occupational, and in the skilled trades. The last implication is that the training program should be selected so that the necessary skills can be developed in short time intervals.

Chapter V

OCCUPATIONAL OPPORTUNITIES

Several factors must be considered in the analysis of employment opportunities available for students leaving the Utah State Industrial School. These factors include: (1) educational background, (2) age, (3) vocational training, and (4) job opportunities generally available in the geographic area.

As reported in Chapter 3 the mean academic retardation for individuals confined at the Utah State Industrial School is 3.7 years. Chronologically this group should be achieving academically at the late eleventh grade level, but are presently achieving at the eighth grade level as measured by the California Achievement Test.

This academic retardation gives rise to several implications relating to occupational opportunity and training. Numerous occupations are excluded to those individuals not possessing the basic academic skills and/or the high school diploma. This is well illustrated by an analysis of occupations described in the Occupational Outlook Handbook. Most occupations described, especially in the skilled and semi-skilled areas require a high school diploma. This is especially vital when one considers that unskilled jobs which in the past have absorbed the uneducated and unskilled in a narrowing field of employment.

The second factor to be considered, age of the student population enrolled at the Utah State Industrial School, is extremely vital. As reported by the Utah Department of Employment Security the major problem in placing school dropouts is the age factor. Present day employers, because of the demands of insurance, safety, costs of training and availability of manpower will not hire individuals for full-time jobs below 18 years of age.

In that the average age of youth at the Utah State Industrial School is approximately 15 years and the average length of confinement is about 9 months, it is apparent that a large percentage of the youth are released well below the age of 18 years.

This factor excludes many occupational clusters, leaving opportunities primarily in dead-end unskilled jobs. In reviewing the literature it seems evident that the primary opportunity for these individuals below 18 years of age are in the service, semi-skilled and unskilled occupations.

The third factor to be considered is the vocational training individuals have upon entering the labor market. Numerous occupations require a background of learned skills and knowledge for entry into the occupation. It is evident because of the age factor described above and the present vocational program at Utah State Industrial School that the majority of the confined have no salable skills.

Through the services of the Utah Employment Service numerous data were obtained relating to the estimated Utah job opportunities for the five year period. This data, as presented in Table 35 indicates that numerous opportunities will be available to individuals entering the labor market.

Of special importance to the identification of a vocational training curriculum at the Utah State Industrial School is the opportunity available in the clerical, service, skilled, semi-skilled and unskilled occupations.

Closely related to the Table 35 are those occupations validated for training under the Manpower Development and Training Act for Utah. This data is presented in Table 36. While some of these occupations require a strong educational background and long training period, many are

applicable to the training needs of the Utah State Industrial School.

Table 35. Estimated Utah job opportunities 1965-1970

Occupation	New Non-Farm Wage and Salary Jobs	Total Non-Farm Job Needs <u>1/</u>	New and Replacement Jobs Including Self Employed and Agri- culture <u>2/</u>
Total	57,300	161,000	200,000
Professional	10,600	24,700	28,000
Semi-Professional	2,500	6,600	10,000
Managerial	3,300	10,100	14,000
Clerical	10,100	29,000	35,000
Sales	3,900	11,800	18,000
Service	10,600	24,100	29,000
Skilled	7,700	25,700	25,000
Semi-skilled	4,800	15,600	16,000
Unskilled & Other	3,900	13,400	25,000

1/ Tentative and preliminary estimate including replacement and turnover.

2/ Preliminary Estimate, 17th Annual Economic Development Conference 8/66.
Source: Utah Department of Employment Security 11/66.

Table 36. Occupations validated for training under MDTA in Utah 1/

Carpenter (Upgrading)	Dentist Assistant
Auto Body Repair	Auto Service Station Mechanic
Clerk, General Office	Clerk Typist
Programmer/Systems Analyst	Maintenance Man, Building
Licensed Practical Nurse	Electrical Appliance Serviceman
Instrument Man (Grade Setter)	Clerk, General
Engineering Equip. Mechanic	Machine Set-up Operator
Stenographer	Aircraft Sheet Metal Worker
Structural Steel Worker (Upgrading)	Aircraft Engine Mechanic
All-Around Farm Machinery Operator	Instrument Repairman
Nurse, Staff (Refresher)	Hospital Orderly
Seamstress	Oper. Room Technician
Bookkeeper	Medical Lab Assistant
Multi-Occupational (6)	Medical Technologist
Laboratory Technician (Soil Testing)	Medical Records Technician
Welder, Combination	Medical Secretary
Waitress	Transcribing Machine Operator

1/ Cumulative list of all types of Manpower Development and Training Courses approved through February 1967 since beginning of the program. Many of these occupations have been approved for more than one course. Determination of likelihood of job openings in the occupation is required before approval for a course is granted. A local office survey of job needs is usually made prior to approval.

Table 37. Percentage of Utah State Industrial School qualifying for occupations approved by MDTA

Occupations*	O.A.P.	<u>Percentages</u>						
		Less					More	
		20	30	40	50	60	70	80
Dentist Assistant	25				X			
Auto Service Station Mechanic	26				X			
Clerk Typist	36	X						
Maintenance Man, Building	19					X		
Electrical Appliance Serviceman	31						X	
Clerk, General	13	X						
Machine Set-Up Operator	22					X		
Aircraft Sheet Metal Worker	22					X		
Aircraft Engine Mechanic	22					X		
Instrument Repairman	10		X					
Hospital Orderly	9	X						
Oper. Room Technician	8	X						
Medical Lab. Assistant	8	X						
Medical Secretary	8	X						
Transcribing Machine Operator	23	X						
Carpenter (Upgrading)	10		X					
Auto Body Repair	10		X					
Clerk, General Office	13							
Programmer/Systems Analyst	2	X						
Licensed Practical Nurse	9	X						
Instrument Man (Grade Setter)	15		X					
Engineering Equip. Mechanic	10		X					
Stenographer	36	X						
Structural Steel Worker (Upgrading)	27					X		
All-Around Farm Machinery Operator	19					X		
Seamstress	26				X			
Bookkeeper	7	X						
Multi-Occupational (6)								
Laboratory Technician (Soil Testing)	8	X						
Welder, Combination	27					X		
Waitress	14		X					

Percentages obtained from Table 19

*Obtained from Utah Department of Employment Security

Table 38. Percentage of Utah State Industrial School students with aptitudes necessary in occupational areas in which there is a national shortage

Occupations*	O.A.P.	<u>Percentages</u>							
		Less						Over	
		20	30	40	50	60	70	80	80
Guard and Watchman	19					X			
Bakers	10		X						
Construction Machinery Operators	19					X			
Floor Layers & Covering Installers	25				X				
Chauffeurs & Drivers, Bus Taxi, Truck & Tractor Routemen	19					X			
Meter Repairmen, Testers & Installers	10		X						
Bookkeepers and Cashiers	7	X							
Checkers	9		X						
Clerks, General Office	13	X							
File Clerks	6	X							
Office Machine Operators	23	X							
Tabulating Machine and Related Equipment Operators	23	X							
Shipping and Receiving Clerks	19					X			
Telephone Operators	21				X				
Sales Clerks	9		X						
Kitchen Workers	10		X						
Clerk-typists	36	X							
Draftsmen, mechanical	8	X							
Draftsmen, electrical	8	X							
Draftsmen, tool design	8	X							
Draftsmen, marine	8	X							
Cooks	10								
Waiters & Waitresses	14		X						
Occupations in laundering, cleaning, dyeing & pressing	35					X			
Tailors & Tailoresses	26				X				
Machinists (machine shop)	25				X				
Turret-lathe Operators	30				X				
Structural Steel Workers	27				X				
Maintenance Mechanics	10		X						
Electronic Technicians	3	X							
Auto Mechanics and Repairmen	11		X						
Licensed Practical Nurses	9		X						
Secretaries	36	X							
Stenographers	36	X							

Percentages obtained from Table 19

*Obtained from Utah Department of Employment Security

While numerous lists of projected occupational needs are available, it is necessary to examine other factors prior to the selection of a vocational training area. The data presented in Table 37 relates vocational aptitude of the sample population to occupational needs. Table 37 indicates not the overall occupational needs of Utah, but is a listing of training areas approved under the Manpower Development and Training Act. These occupations were selected for M.D.T.A. in view of general skill shortages in Utah. Also presented in Table 37 are the percentages of students qualifying for these occupations. Maintenance men, electrical appliance repairmen and farm machinery operators are examples of possible training areas in that over 60 per cent of the students have the aptitude for these occupations. Similar data is presented in Table 38 however, the occupations listed are based on national labor shortages, rather than Utah needs.

SUMMARY AND CONCLUSIONS

Summary

The purpose of this study was to develop guidelines for the selection of vocational training areas to be offered in the Utah State Industrial School.

The data used in the study were gathered from four major sources.

1. A review of the literature pertaining to vocational curriculums in industrial schools.
2. An analysis of student characteristics which affect educational programs.
3. A nation-wide survey of comparable industrial schools.
4. A survey of employment opportunities in the nation and Utah.

The review of literature indicated that much research is needed in order to identify the most appropriate vocational education programs for industrial schools.

Vocational education leaders are well divided in their beliefs that such training programs should be either general preparation for cluster occupations, or those programs which train the student for a specific occupation.

In attempting to predict which type of vocational education program would be most practical for the Utah State Industrial School, this study utilized the research of Carlson, Sowles and Heggen, related to the student population of the school.

The study conducted by Carlson indicated several motivational factors which could affect a vocational curriculum. Among those traits most prevalent in the students are low levels of career interest and high levels of drive towards self-indulgence and assertiveness.

The study by Sowles revealed several personality factors which could have an influence on implementing a vocational program. The students were generally found to be withdrawn, hostile and rigid. These personality factors generally would have an effect on the employability of the student.

The study conducted by Heggen revealed that the students were academically retarded by 3.7 grade levels. They were below the national norms in intelligence, verbal and numerical aptitudes. The occupational aptitude patterns for which the majority of the students qualified were in the low-skilled and/or service trades.

The survey of comparable schools indicated that these schools have a wide variety of programs in vocational training. The survey also indicated some factors which would effect a vocational education program. Some of these factors were the average length of confinement at the institutions, the interests, aptitudes and abilities of the students confined, and the job market available to the released student.

The survey of employment opportunities indicated that there would be jobs available in selected areas if the students were appropriately trained. It also stressed age as an important factor for employment.

Conclusions

The following conclusions were reached on the basis of this research:

1. There is a need for vocational programs for institutionalized youth.
2. Before vocational education programs are established, it is necessary to study the aptitudes and achievement levels of the students to be served by these programs.

3. That motivation and personality factors of the students will effect the choice of vocational programs implemented by the school.
4. A general vocational curriculum would be the most practical type of program for students confined to the school.
5. A placement service will be necessary in order to help the released student obtain employment or further educational training.

RECOMMENDATIONS

The following recommendations have resulted from this study related to a vocational education program for the Utah State Industrial School. It is recommended that:

1. A general vocational curriculum be implemented at the Utah State Industrial School. This general curriculum should aim at preparing the student for the cluster occupation for which the majority qualify. Performance criteria should be established for the general vocational curriculum content. This performance criteria would provide for more flexibility within the courses, and allow for individual student pacing, both factors of great importance within this limiting institutional circumstance.
2. A thorough and integrated testing program be persued in order to assure the most practical vocational education program possible.
3. A vocational guidance course be developed under the direction of the vocational guidance counselor. The purpose of this course would be to explore the world of work in general and to provide an opportunity for the students to become familiar with the qualifications and responsibilities of occupations in order to motivate the student to eventually pursue a realistic occupational choice. Such a course would also motivate the student to pursue some sort of advanced training upon release by providing an understanding and appreciation of education as a vital facet of employment.
4. An employment service be initiated to help the student gain employment and/or further educational training after his release.

The person in charge of this service should be very familiar with the student, the vocational program, the work programs and the job market. This employment service in addition to placing students upon release could make follow-up studies to determine the effectiveness of the training program and suggest ways of adjusting the program to achieve maximum success.

5. Opportunity be provided for the students to participate in some work program. This could be in the form of a general work study program or a cooperative education program.
6. A local advisory committee be appointed to help plan the vocational curriculum. Selection should be made from among those people who would be most familiar with general vocational needs, and most aware of job opportunities in the area. Aside from the practical aspect of this committee, it would seem an excellent move to get those outside the institution interested and involved in the programs of the school.
7. The institution fully familiarize itself with and utilize the state agencies which can be of some assistance in this area. These would include agencies involved in vocational education and job opportunities. An awareness of national agencies in these areas and utilization of these agencies is also recommended.
8. Further studies be made to directly correlate factors related to motivation, personality, achievement and aptitude of student.
9. A vocational director should be appointed to implement a general vocational program for the institution. This person should have a great interest in and background relating to the institution, the students, vocational education and the general job area. The responsibilities of this position would include all areas related to the actual program of vocational education.

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APPENDIX A

QUESTIONNAIRE

PLEASE CHECK THE APPROPRIATE SPACE FOR EACH QUESTION. IF YOUR SCHOOL DOES NOT HAVE A VOCATIONAL PROGRAM STOP AFTER QUESTION TEN.

1. What is the average age of students enrolled in your institution?

<u>Male</u>	<u>Female</u>	
_____	_____	under 11
_____	_____	11-12
_____	_____	13-14
_____	_____	15-16
_____	_____	17-18
_____	_____	over 18

2. What is the average sentence for students enrolled in your institution?

<u>Male</u>	<u>Female</u>	
_____	_____	less than 3 months
_____	_____	3-6 months
_____	_____	7-12 months
_____	_____	13-18 months
_____	_____	19-24 months
_____	_____	over 24 months

3. Does your institution offer a practical arts curriculum (such as arts and crafts, or woodshop as a part of your general education program)?

☐ Yes ☐ No

4. Does your institution differentiate between vocational training (training for specific jobs) and practical arts (general education)?

☐ Yes ☐ No

5. How much time is spent in the following classes each week? (Circle the appropriate number of hours for each curriculum area.)

	<u>Hours Per Week</u>										<u>Over 12</u>
English	3	4	5	6	7	8	9	10	11	12	_____
Math	3	4	5	6	7	8	9	10	11	12	_____
Science	3	4	5	6	7	8	9	10	11	12	_____
Vocational	3	4	5	6	7	8	9	10	11	12	_____
Avocational	3	4	5	6	7	8	9	10	11	12	_____
Art	3	4	5	6	7	8	9	10	11	12	_____
Other_____	3	4	5	6	7	8	9	10	11	12	_____

6. Do you have job placement help for students leaving the institution?

☐ Yes ☐ No

7. What percentage of the students do you place on full time jobs after they leave your institution?

_____	Less than 20 per cent	_____	60-80 per cent
_____	20-40 per cent	_____	80 per cent and above
_____	40-60 per cent		

8. What percentage of your students go back to the public schools upon release?

- ☐ Less than 20 per cent
- ☐ 20-40 per cent
- ☐ 40-60 per cent
- ☐ 60-80 per cent
- ☐ over 80 per cent

9. Can students gain high school credit in courses taken at your institution?

☐ Yes ☐ No

10. Does your institution offer a vocational training program for males?

☐ Yes ☐ No

For females?

☐ Yes ☐ No

11. What is the minimum age for your students to enroll in a vocational program?

- ☐ Younger than 14
- ☐ 14-15
- ☐ 16-17
- ☐ 18 and over

12. How did you select your vocational curriculum?

- ☐ Traditional program
- ☐ Administrative decision
- ☐ Advisory committee recommendations
- ☐ Research into employment opportunities in your geographic area
- ☐ Cooperation with the public employment office
- ☐ Other _____

13. What curriculum areas do you offer? (If your curriculum is general in nature, i.e., general automotive, only check the major category. If your program is specialized, check the appropriate subarea.

Time Required For
Completion of Pro-
gram in Weeks

 AUTOMOTIVE

- ☐ Gas Station Attendant
- ☐ Body and Fender
- ☐ Automotive Mechanic
- ☐ Other _____
- ☐ Other _____

**Time Required For
Completion of Pro-
gram in Weeks**

WOODWORKING

Building Construction

Cabinet Making

Other

Other

METALS

Welders

Machinist

Sheetmetal Man

Other

Other

PRINTING

Offset Printers

Platen Printers

Composers

Other

Other

DRAFTING

Architectural

Technical

Electronic

Other

Other

BUSINESS

Typists

Stenographers

File Clerks

Machine Operators

Other

Other

SERVICE OCCUPATIONS

Cooks

Domestics

Retail Sales

Janitorial

Appliance Repair

Gardener

Practical Nurse

Truck Drivers

Butcher

Waitress

Seamstress

Other

Other

**Time Required For
Completion of Pro-
gram in Weeks**

GENERAL LABOR

____ Assembly Line
____ Unspecialized Labor

____ Other _____
____ Other _____
____ Other _____
____ Other _____

14. How do you handle the problem of different sentence durations within the vocational program, i.e., one student comes for six months, another for a year. Explain.

15. How do you handle the different entering and leaving dates for students in the vocational program, i.e., one student enrolling in January another in March. Explain.

APPENDIX B

PRESENT UTAH STATE INDUSTRIAL SCHOOL CURRICULUM

Of major importance in the selection of new curriculum areas within a school is a clarification of the philosophy and objectives of the institution. The purpose of this examination is to determine the role of additional curriculum areas within the total curriculum, and/or to evaluate new areas for possible inclusion into the total program. The statement of curriculum, as presented below, was obtained through the courtesy of the Utah State Industrial School.

It should be the policy and procedure of all departments in the school to follow a down-to-earth, day-by-day teaching of basic skills, based on a reasonable plan of providing for individual difference.

The school recognizes the need for a reality based curriculum. Teachers will be expected to play a significant part in the complete restructuring of the child's reality. The school is the child's working world. In this world the student needs to achieve success and mastery of skills in all of those areas of conscious effort which are available to him.

The aim of the school is to return the students to the community school as quickly as practicable or to provide guidance and terminal education training, which rehabilitative value will make itself evident in preparing an adolescent for wholesome living, law abiding citizenship, and job adjustment.

The curriculum of the Industrial School has to concern itself with the emotional readjustment and therapeutic restoration of the child. Thus the basis for our curriculum should be the re-education of the emotions.

The goals are:

1. To teach the child to believe in and accept himself and his own self-worth.

2. To teach the child how to handle his impulses in a personally and socially acceptable way.
3. To teach the child how to make wholesome and meaningful personal relationships.
4. To teach the child how to make a positive emotional investment in his environment.
5. To teach the child good habits, healthful attitudes and necessary knowledge and skills in consonance with his emotional and intellectual potential.

Teachers will concern themselves with teaching materials that will accomplish the above mentioned goals. We must accept the fact that we are not going to make classicists out of the majority of the students we teach.

What about the talented child? There is no question that buried under the debris of poor backgrounds, poor schooling and lack of motivation is a talented child. Should we neglect him? The answer obviously is no. Reading is key tool. Teachers should work individually and intensively with pupils who show potential for improvement (developmental reading). Our inservice meetings 1967-68 will concern itself with aids and instructions of a more detailed nature for enrichment programs.

Learning Adjustment classes are established, so as to meet the needs of children with special problems. Classes designed to meet these needs will be designated.

Adjustment Class I	(Mentally Retarded)
Adjustment Class II	(Mentally Retarded)
Adjustment Class III	(Mentally Retarded)
Adjustment Class IV	(Emotionally Disturbed)

Adjustment Class V (Emotionally Disturbed)
 Adjustment Class VI (Emotionally Disturbed)
 Adjustment Class VII (Slow Learner)
 Adjustment Class VIII (Slow Learner)
 Adjustment Class IX (Slow Learner)
 Adjustment Class X (Remedial Reading)
 Adjustment Class XI (Remedial Reading)
 Adjustment Class XII (Remedial Math)
 Adjustment Class XIII (Remedial Math)

Grades 3 - 12

3rd Grade Required Subjects

Language Arts
 Spelling
 Speaking
 Writing

Social Studies
 Reading

Enrichment
 Art/Music
 Phys. Ed./Crafts
 Science
 Library

Arithmetic

4th Grade Required Subjects

Language Arts
 Spelling
 Speaking
 Writing

Social Studies
 Reading

Enrichment
 Art/Music
 Phys. Ed./Crafts
 Library
 Science

Arithmetic

5th Grade Required Subjects

Language Arts
 Spelling
 Speaking
 Writing

Arithmetic
 Social Studies
 Reading

Enrichment
 Art/Music--Elem.
 Rhythm Band
 Phys. Ed./Shop/
 Crafts
 Science
 Library

6th Grade Required Subjects

Language Arts
 Spelling
 Speaking
 Writing

Arithmetic
 Social Studies

Enrichment
 Art/Music--Elem.
 Rhythm Band
 Phys. Ed./Shop/Crafts

Reading

Science
Library

7th Grade Required Subjects

English and Spelling
Arithmetic
Art & Music
Phys. Ed./Ind. Arts/Homemaking
Science
Civics/Health
Reading

Electives
Library
Seminary
Type

8th Grade Required Subjects

Arithmetic/Algebra
English & Literature
Science/General Science
U.S. History/ Civics
P.E./Ind. Arts/Homemaking

Electives
Art
Survey of Music
Speech
Literature
Type
Social Studies

High School credit will be assigned from grades 9 - 12.

21 credits required for graduation.

9th Grade Required Subjects

Credit

English	1 Unit
General Science	1 Unit
Phys. Ed.	1/2 Unit
World Geography	1/2 Unit

Electives

Algebra
Art
Crafts
Type
Homemaking
Ind. Arts
Social Studies
Speech
Survey of Music

10th Grade Required Subjects

Credit

English	2 Units
Biology	2 Units
World History	2 Units
Phys. Ed. (Boys)	
Phys. Ed. (Girls)	

Electives

Art & Crafts
Homemaking
Type
Journalism
Literature
Geometry
Math
Shop Math
Mech. Drawing
Psychology
Study Hall
Algebra

11th Grade Required Subjects

Credit

English	1 Unit
Adv. Biology/Physical Science (Physics, Chemistry, Physiology)	1 Unit
American History	1 Unit
Phys. Ed. (Boys)	
Phys. Ed. (Girls)	

Electives

Art/Crafts
Homemaking (Girls)
Type
Journalism
Literature
Geometry
Math
Shop Math
Mech. Drawing
Psychology
Study
Algebra

12th Grade Required Subjects

The senior year will be a prescribed program based upon the individual need of the student. The following alternatives will be considered:

1. Off campus school.
2. School in community Monday thru Friday; Institution residence weekends.
3. Course work and tests suggested by parent school (last school attended).
4. Correspondence courses.
5. General Educational Development Test (G.E.D.) after self-study.
6. Etc.

Vocational Training

Grades 10-11-12

Specialized classes in Vocational Training and Guidance are included in the high school curriculum. These classes are offered by certified instructors, with appropriate credit being issued upon the completion of the course work.

The following subject areas are prescribed areas in the curriculum for this academic year:

Auto Mechanics 1

Auto Mechanics 2

Cabinet and Mill Shop 1

Cabinet and Mill Shop 2

Vocational Agriculture

Landscape Gardening

Cooks Helper 1

Apprentice Cook 2